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HOOKER'S

ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS, OF NEW AND RARE PLANTS,

SELECTED FROM THE

KEW HERBARIUM.

FOURTH SERIES.

EDITED FOR THE BENTHAM TRUSTEES BY

DANIEL OLIVER, F.R.S., F.L.S.

EMERITUS PROFESSOR OF BOTANY IN UNIVERSITY COLLEGE, LONDON: LATE KEEPER OF THE HERBARIUM AND LIBRARY, ROYAL BOTANIC GARDENS, KEW.

Under the Authority of the Director of the Royal Botanic Gardens, Kew.

VOL. III.

OR VOL. XXIII. OF THE ENTIRE WORK.

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DULAU & CO.
37 SOHO SQUARE, LONDON.
1894.

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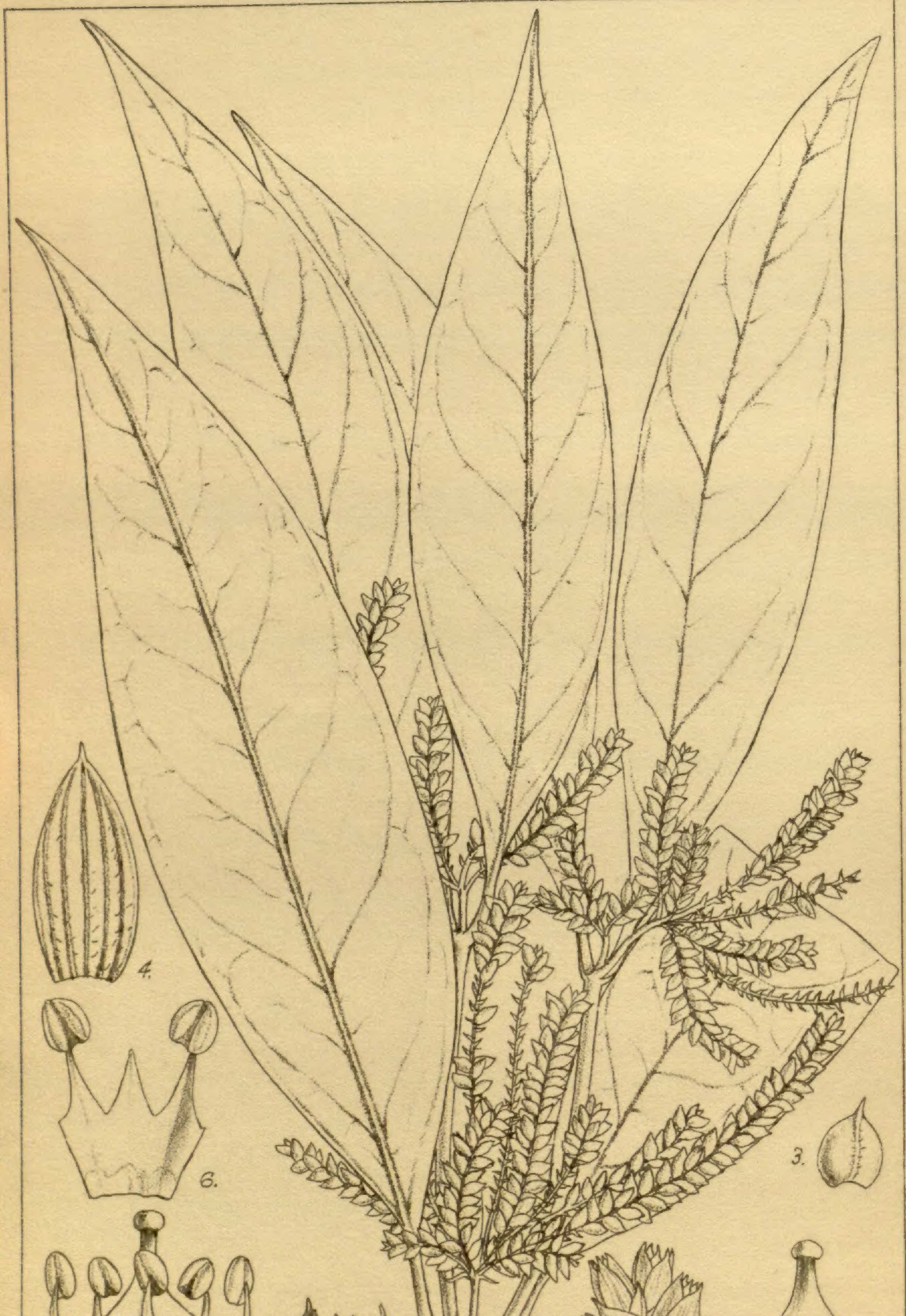


M.S.del.et lith.

Ærua Curtisii, Oliv.

Plate 2201.

ÆRUA CURTISII, *Oliv.*

Amarantaceæ. Tribe Amaranteæ.

Æ. Curtisii, *Oliv.* (*sp. nov.*); herba, caule pilosulo, foliis oppositis membranaceis oblongo-lanceolatis sensim acuminatis basi in petiolum angustatis supra obsolete pilosulis scabriusculis subtus sparse molliter pilosis nervis distinctis utrinque circa 7, floribus ♂ laxiuscule spicatis, spicis subumbellatim aggregatis, inflorescentiis terminalibus breviter pedunculatis ex dichotomiis superioribus ortis, bracteis scariosis parvis late ovatis persistentibus, bracteolis conformibus æquilongis, perianthio bractea 3–5-plo longiore 5-partito segmentis stramineis rigidiusculis fere glabris oblongo-lanceolatis acutis apiculatisve longitudinaliter valide nervosis, filamentis basi in cupulam coalitis deltoideo-subulatis staminodiis totidem (5) interpositis, stylo brevi, stigmate capitato, utriculo obovato-oblongo, semine oblique reniformi.

Hab. Malaya, Perak, *Curtis* (No. 2,712).

Folia 4–5½ poll. longa, 1–1½ poll. lata; petiolus ½–¾ poll. longus. *Inflorescentia* foliis brevior; pedunculus ¼–½ poll. longus; spicæ 1–1½ poll. longæ. *Flores* ⅛ poll. longi.

The comparative absence of the characteristic indumentum, and more especially the all but glabrous and somewhat coriaceous perianth-segments, renders this a marked species in *Ærua*, but the floral characters are those of that genus. A careful analysis of the flower was made by Dr. Stapf when comparing a considerable Malayan collection from our valued correspondent Mr. Curtis. He failed to identify it in the Kew Herbarium.—D. Oliver.

Fig. 1. Extremity of flowering spike. 2. Detached flower. 3. Bract. 4. Perianth-segment. 5. Stamens and pistil. 6. Portion of staminal tube, with two anthers. 7. Vertical section of ovary. *All enlarged.*

M.S.del.et lith.

Terminalia Oliveri, Brandis.

Plate 2202.

TERMINALIA OLIVERI, *Brandis*.

Combretaceæ. Tribe Combreteæ.

T. Oliveri, *Brandis* (*sp. nov.*) ; arbor grandis, ramulis et foliis subopppositis, foliis integerrimis superne punctulatis longiuscule petiolatis ovato-ellipticis basi subinæqualibus acutis apice breviter acuminata submucronata, junioribus molliter sericeis, adultis glabrescentibus, nervis lateralibus (fortioribus) utrinque 8–10, venis plurimis eleganter reticulatis, floribus sessilibus hermaphroditis paniculatis luteolis, paniculis supra-axillaribus sericeo-pubescentibus folium æquantibus, bracteis linearibus flores apertos fere æquantibus longius persistentibus demum deciduis, ovario obscure 5-costato glaberrimo, calyce tenuiter membranaceo ad tertiam fere partem 5-fido extus glabro, intus in fundo piloso, segmentis triangularibus, staminibus 10, in fundo calycis circa discum pilosum dispositis sepalis alternis altius insertis, stylo exserto, stigma punctiforme, fructibus 5-alatis, alis membranaceis, radicula supera, cotyledonibus convolutis.

Hab. Upper Burma, Pakôkka district.—*J. W. Oliver.*

Folia $1\frac{1}{2}$–$2\frac{1}{2}$ poll. longa, 1–$1\frac{1}{2}$ poll. lata; petiolus $\frac{1}{2}$ poll. longus parce pilosulus; glandulæ nullæ. *Fructus* $\frac{3}{4}$ poll. longus.

This species is very similar to two species described by Presl in his 'Epimeliæ Botanicæ,' pp. 213–214, from specimens collected by H. Cuming, viz.: *T. polyantha* (No. 1516) and *T. parviflora* (No. 1439), both said to have come from Prov. Batangas, Luzon, Philippine Islands. Both, however, have tetramerous flowers, with four very indistinct calyx-segments (of *T. parviflora*, Presl says '*floribus obtuse quinquefidis*'), and minute early deciduous bracts. The (ripe) fruit of *T. parviflora* is 2-winged; that of *T. polyantha* (immature) is 4- sometimes 3-winged.

Mr. J. W. Oliver, the Conservator of Forests in Upper Burma, who sent me the specimens here figured, found the tree in flower in May 1891.

Mr. H. C. Hill, Conservator of Forests in Burma, who lately acted as Inspector-General of Forests, India, has kindly furnished me with the following notes regarding the appearance and geographical distribution of this interesting tree:—

A moderate-sized tree, attaining 40–50 feet, with a girth of 4–5 feet. Stem irregularly shaped, often channelled, somewhat like the Hornbeam: bark greenish grey. During the dry season the leaves turn red before falling. The bark is thick and brittle; its cells contain an abundance of starch and calcium-oxalate crystals, but, apparently, no tannin. The decoction of the bark gives a light-coloured extract which has been largely used to adulterate cutch (the extract of the heart-wood of *Acacia Catechu*), but is believed to be entirely ineffective as a tanning material.

It is a very common tree in the dry region of the Irawaddi valley, which commences north of the 19th degree N. lat., and extends as far as Mandalay. It is also found in the lower part of the Chindwin valley, and near the head waters of the Sitang valley. In this extensive dry region, with a mean annual rainfall of only 20–30 inches, *Terminalia Oliveri* is associated with Cutch in a thin open forest, from which the Cutch, being the more valuable tree, has been much cut out. The other trees found in this forest are: *Tectona Hamiltoniana*, *Shorea siamensis*, and *Terminalia tomentosa*.

From the Indian species of the section *Pentaptera* this tree differs in a remarkable manner in the small size of the leaves and fruit.—D. Brandis.

Fig. 1. Two flowers, attached. 2. Calyx-tube, laid open. 3. Ovary. 4. Vertical section of same. 5. Fruit. *Excepting No. 5, all enlarged.*

M.S. del. et lith.

Cacoucia paniculata, Laws.

Plate 2203.

CACOUCIA PANICULATA, *Laws.*

Combretaceæ. Suborder Combreteæ.

C. paniculata, *Lawson in Oliv. Fl. Trop. Afr.* ii. 434; frutex scandens, foliis oblongo-ellipticis breviter acuminatis basi plus minus rotundatis glabris breviter petiolatis, paniculis amplis terminalibus ramis simplicibus divergentibus recurvisve cano- v. cinnamomeo-tomentellis, bracteis lanceolatis acuminatis pilosulis v. pubescentibus brevissime petiolatis, floribus pedicellatis, calycis tubo oblique tubulari-campanulato pubescente dentibus ovato-deltoideis acutis, petalis calycem paullo superantibus ellipticis unguiculatis acutiusculis plus minus pubescentibus, staminibus antipetalis longioribus, filamentis superne glabris, stylo basi disco plicato margine ciliato circumdato, ovario sulcato tomentoso-pubescente, ovulis c. 4 longe funiculatis, fructibus siccis pentapteris late ellipticis alis coriaceis margine membranaceis.

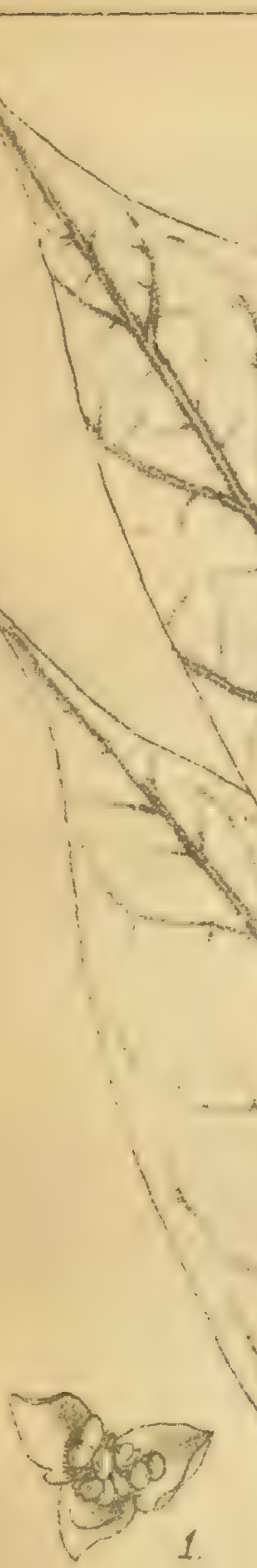
Hab. W. Tropical Africa, Gaboon River, *Mann*, *Soyaux* (Nos. 108, 158); Expedition to interior of Yoruba, *Millson* (No. 34).

Folia 4–5½ poll. longa, 1½–2 poll. lata, petiolus ¼–⅓ poll. longus. *Paniculæ* 1–2 ped. longæ. *Bracteæ* ½–¾ poll. longæ. *Flores* cum ovario ¾–1¼ poll. longi, decurvi.

The fruit of this plant was unknown at the time of its publication (*l.c.*), but specimens since received from M. Soyaux and, recently, through the good offices of H.E. Governor Sir A. Moloney, show a fruit which is very different from that of Aublet's South American species, which has an ovoid or lanceolate-ovoid, more or less 5-angled fruit with corky pericarp, 2–2¾ inches in length. We have what may be *C. paniculata* from Niamniam-land, communicated by Dr. Schweinfurth. *C. platyptera*, Welw., MSS. from Angola, I take to be identical.—D. Oliver.

Fig. 1. Calyx, laid open. 2. Petal. 3. Stamens. 4. Ovary and style. 5. Longitudinal section of ovary. *All enlarged.*

Pl 2204.



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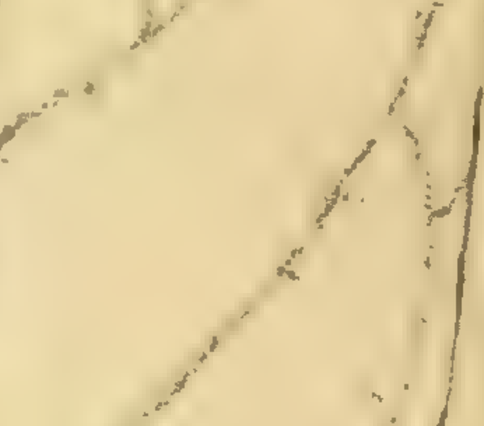

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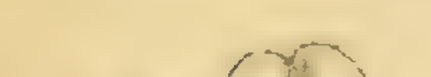


7.

M. S del. et lith

Plate 2204.

APOROSA BOURDILLONII, *Stapf.*

Euphorbiaceæ. Tribe Phyllantheæ.

A. Bourdillonii, *Stapf* (*sp. nov.*); arbuscula, ramulis breviter tomentellis deinde glabrescentibus, foliis oblongo-ellipticis obtusiuscule acuminatis costa nervisque secundariis puberulis exceptis glabratis, stipulis caducis, ♂ inflorescentia amentacea, amentis solitariis v. parce fasciculatis axillaribus, perianthio minuto inæqualiter 2–3-lobo membranaceo, staminibus sæpius 2 liberis, ovarii rudimento minimo, floribus ♀ in axillis superioribus solitariis pedunculo bracteato suffultis, perianthio inæqualiter 4-partito segmentis bracteis consimilibus, ovario ovoideo processubus linearibus demum accrescentibus strigillosis obsito.

Hab. Travancore; moist forest in the low country, *T. Fulton Bourdillon* (No. 9).

Ramuli graciles crassitie pennæ corvinæ, annotini brunneo-grisei tenuiter rimosi, hornotini foliiferi brunnei. *Folia* alterna petiolata basi rotundata tenuiter coriacea, nervis subtus prominulis secundariis utrinque 7–9, venulis inconspicuis, $4\frac{1}{2}$–6 poll. longa, $1\frac{1}{2}$–$1\frac{3}{4}$ poll. lata; petiolus $\frac{1}{2}$ poll. longus. *Stipulæ* oblongæ acuminatæ fulvo-tomentosæ, $\frac{1}{4}$–$\frac{1}{3}$ poll. longæ. *Flores* ♂ glomerulati, glomerulis in amentis c. 10–12 bracteatis arcte approximatis; bracteæ ovatæ subacutæ pallide brunneæ puberulæ et ciliatæ, 1–$1\frac{1}{2}$ lin. longæ. *Antheræ* globosæ loculis contiguis parallelis. *Flores* ♀ pedunculati, pedunculo bracteato $\frac{1}{3}$–$\frac{1}{2}$ poll. longo. *Ovarium* a me visum maxime evolutum $\frac{1}{3}$–$\frac{3}{4}$ poll. longum; stigmata crassa profunde bifida.

This species represents a peculiar type which may well form a new section of *Aporosa*, or even a new genus altogether. The structure of the ovary, however, is, apart from the shaggy indumentum, exactly that of *Aporosa*. Professor Baillon, to whom I forwarded a sketch of the plant and of my dissections, is also inclined to refer this species to *Aporosa*.—O. Stapf.

Fig. 1. Glomerulus of staminate flowers in bud. 2 and 3. Staminate flowers. 4. Pistillate flower from below. 5. The same, side view. 6. Longitudinal section of young fruit.—*All enlarged.*

M. Bidel et lith.

Engleria africana O. Hoffm. var.

Plate 2205.

ENGLERIA AFRICANA, *O. Hoffm.*, var.

Compositæ. Tribe Asteroideæ.

E. africana, *O. Hoffm. in Engler*, *Bot. Jahrb.* x. (1889), 273, tab. ix. A. *var.* radiata, *Oliv.*; foliis ovatis utrinque 3–6-dentatis, dentibus oblique deltoideis acutis, capitulis radiatis, ligulis oblongis involucro 2-plo longioribus.

Hab. Trop. Africa, Angola, *Dr. Welwitsch* (No. 3,999).

Herba (v. frutex) ramosa glabra, ramulis teretibus. *Folia* longiuscule petiolata sæpius subopposita carnosula acuta basi nonnunquam rotundata v. truncata, in ramulis floriferis $\frac{1}{2}$–$\frac{3}{4}$ poll. longa, 4–6 lin. lata. *Involucrum* bracteis interioribus anguste linearibus acutis, margine anguste scariosis apicem versus fimbriatis, costa colorata gummifera percursis. *Receptaculum* nudum. *Flores* radii ligulati, ♀, ligula 5–6 lin. longa. *Antheræ* basi inappendiculatæ, apice connectivo lanceolato productæ; filamentis prope apicem leviter glandulosim incrassatis. *Stylus* ramis longiusculis anguste linearibus crassiusculis obtusiusculis papillosis. *Achænia* setulosa 3–5-costata, costis resiniferis interruptis obtusis.

Of this plant we have a specimen, communicated by the Polytechnic Museum of Lisbon, collected by the late Dr. Welwitsch, who had given it in manuscript the name *Adenogonum decumbens*. It corresponds so nearly with the figure cited above, and with a small specimen, kindly communicated to the Kew Herbarium by Dr. Engler, collected by Marloth in Herero Land, that I feel bound to refer it to the same species, notwithstanding the presence of conspicuous ray-florets. Of the colour of the florets I have no note, but should judge them to be homochromous.—D. Oliver.

Fig. 1. Ray-floret. 2. Disk-floret. 3. Seta of pappus. 4. Anthers. 5. Achene. *All enlarged.*

M. S. del et lith.

Celastrus latifolius, Hemsl.

Plate 2206.

CELASTRUS LATIFOLIUS, *Hemsl.*

Celastraceæ.

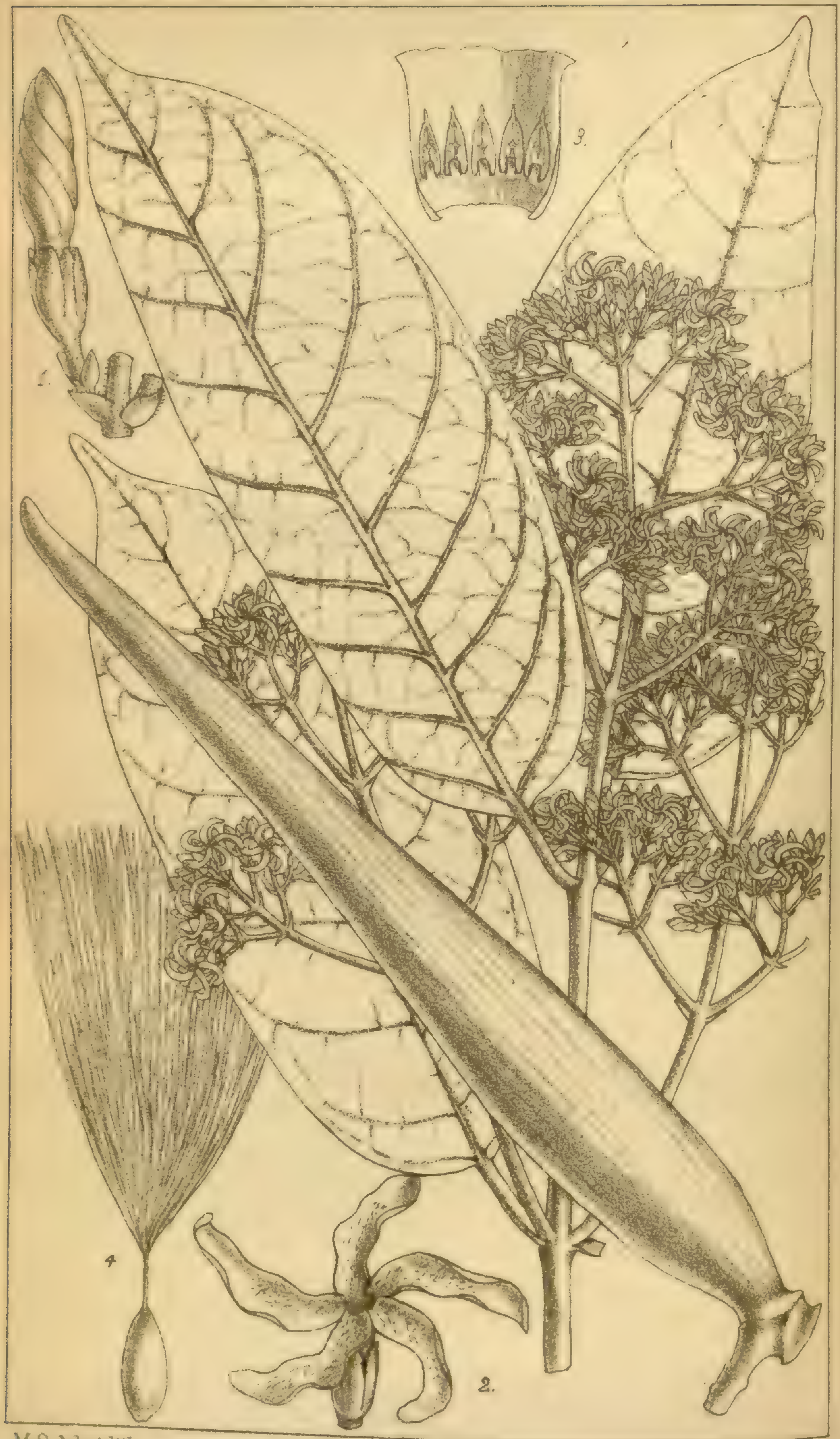
C. latifolius, *Hemsl. in Journ. Linn. Soc.* xxiii. 123; frutex ramulis brunneis purpurascentibusve subteretibus v. ultimis ob lineas decurrentes elevatas subangulatis sæpe crebre lenticellatis, foliis late ellipticis obtuse cuspidatis crenato-serratis glabris v. subtus in costa nervis venulisque parce pilosulis, paniculis multifloris terminalibus ramulis primariis subpatentibus, floribus breviter pedicellatis v. subsessilibus ♂ et ♀, calycis lobis ovatis glabris basi carnosulis, petalis oblongo-ellipticis minutissime erosis recurvis calyce 3-plo longioribus, fl. ♂ filamentis corolla æquilongis anthera 2-plo longioribus, anthera majuscula ovato-elliptica obtusa, fl. ♀ filamentis anthera haud longioribus, ovario obtuse 3-gono glabro disco inserto, stylo ovario æquilongo sulcato, capsula depresso-globosa obscure trigona, valvis tenuiter crustaceis lævibus, seminibus solitariis geminatisve arillatis.

Hab. China, Prov. Hupeh, Ichang, Patung district, and 'Nan-t'o and mountains to northward,'—Dr. Henry (Nos. 485, 1,774, 2,084, 3,405A, 3,883).

Folia 4–6 poll. longa, 3–5 poll. lata; petiolus ¾–1 poll. longus. *Fructus* ⅓ poll. diam.—D. Oliver.

Dr. Henry communicates the following:—'*Celastrus latifolius*, Hemsl., is a common shrub about Ichang, being known as *nan-shan-yeh*. The root and also the leaves are used, powdered and mixed with flour, to scatter over growing cabbage, turnips, &c., for the purpose of killing obnoxious insects, grubs, &c. I find from one of the Customs publications that the "bark of a tree, called *nan-shao-kên*" occurs in the drug market of Hankow. This is possibly the root-bark of this shrub.'

Fig. 1. Flower. 2. The same, earlier stage, petals removed. 3. Longitudinal section of ovary and disk. 4. Fruit after dehiscence. *All enlarged.*



M.S.del, et lith.

Anodendron oblongifolium, Hemsl.

Plate 2207.

ANODENDRON OBLONGIFOLIUM, *Hemsl.*

Apocynaceæ. Tribe Echitideæ.

A. oblongifolium, *Hemsl. in Ann. Bot.* v. 505; frutex alte scandens, foliis oblongis breviter obtuse acuminatis basi rotundatis glabris nervis lateralibus utrinque 8–10, paniculis multifloris pedunculatis terminalibus et in axillis foliorum superiorum parce puberulis, bracteis parvis ovatis, floribus breviter pedicellatis, calycis tubo corollæ breviore, segmentis ovato-oblongis obtusis, corollæ lobis oblique oblongis obtusis, antheris infra medium tubi insertis apiculatis loculis basi breviter productis, folliculis apicem versus angustatis obtusis longitudinaliter lineatis, coma seminis stipitata.

Hab. Solomon Islands; Fauro Island, *Guppy* (No. 189); San Christoval, *Comins* (No. 40).

Folia $4\frac{1}{2}$–6 poll. longa, $1\frac{1}{2}$–2 poll. lata; petiolus 5–6 lin. longus. *Paniculæ* foliis breviores pedunculo 1–$1\frac{1}{2}$ poll. longo. *Flores* $\frac{1}{4}$–$\frac{1}{3}$ poll. diam., flavescentes.

Both Dr. Guppy (whose specimen was in fruit only, and not determinable with certainty) and the Rev. Mr. Comins note that the tenacious bast of this climber is used by the natives for fishing lines and nets.

Nearly allied to *A. paniculatum*, A. DC., which has a more diffuse inflorescence, its branches and pedicels more slender and longer.—D. Oliver.

Fig. 1. Bud, attached, showing æstivation. 2. Flower, expanded. 3. Base of corolla-tube, laid open. 4. Seed. *Excepting No.* 4, *all enlarged.*

A.L. Singh del

Pedicularis cranolopha, Maxim.
A. var. typica: B. var. longicornuta.

Plate 2208.

PEDICULARIS CRANOLOPHA, *Maxim.*

Scrophularineæ. Tribe Euphrasieæ.

P. (§ **Siphonanthæ longifloræ**) **cranolopha**, *Maxim.*, *Mel. Biol.*, x. 85 (1877) et xii. 795, t. 1, f. 10 (1888); *Prain*, *Ann. Roy. Bot. Garden, Calcutta*, iii. 67 (1890); humilis pilosa, foliis lineari-oblongis radicalibus longe petiolatis segmentis lanceolatis serratis, calyce ovato 3-dentato segmento summo lanceolato lateralibus ovato-lanceolatis serratis, corolla lutea, tubo calyce 4-plo longiore, galea cristata, rostro sigmoideo apice emarginato, labii lobo medio emarginato lateralibus fere duplo minore, filamentis omnibus hirsutis.

Var. *typica*; galeæ crista ad rostri originem usque extensa ibique truncata. P. cranolopha, *Maxim.*

Hab. China; prov. Kansu, *Przewalski!*

Var. *longicornuta* (var. nov.); galeæ crista ad rostri originem usque extensa, exinde in cornu rostrum subæquans producta. P. birostris, *Bur. et Franch. in Journ. Bot.* v. (1891) 107.

Hab. China; prov. Szechuen, *Pratt* (No. 167).

This plant of Mr. Pratt's collection, though it has to be referred to an already described species, is the most interesting *Pedicularis* he has found, and is, owing to its curious crest, one of the most interesting forms in this interesting genus. *Pedicularis cranolopha* is not the only species with a crested galea; the condition occurs in *P. torta*, Maxim., *P. oxycarpa*, Franchet, *P. cristata*, Maxim., *P. leptorhiza*, Ruprecht, and *P. Regeliana*, Prain. But in none of them does the crest become, as here, prolonged into a free process 4–5 mm. long, almost the length of the true beak. And yet, save for this solitary—though certainly striking—character, there is nothing to separate Mr. Pratt's Szechuen plant specifically from General Przewalski's Kansu one. Mr. Pratt's specimens are more robust than those sent to Calcutta by M. Maximowicz, and they show distinctly—what M. Maximowicz and myself had failed to detect in the type—that the margin of the lower lip in this species is ciliate.

The area of distribution of the species is, by Mr. Pratt's gathering, somewhat extended.—D. Prain.

Fig. A1. Calyx (var. *typica*). A2. Corolla-lip, hood, and portion of tube (ditto). B1. Calyx (var. *longicornuta*). B2. Corolla-lip, hood, and portion of tube (ditto). *All of natural size.*

A.L.Singh del,

Pedicularis rhynchodonta, Bur. & Franch.

Plate 2209.

PEDICULARIS RHYNCHODONTA, *Bur. et Franch.*

Scrophularineæ. Tribe Euphrasieæ.

P. (§ **Rhynchodontæ**: series nov. ante **Comosas** ponenda, humiles, hirsutæ, foliis pinnatisectis, spica densa centrifuga, calyce campanulato dentibus summo excepto serratis) **rhynchodonta**, *Bur. et Franch. in Journ. Bot.* v. (1891) 108; nana, hirsuta, radice valida e fibris pluribus fusiformibus fasciculata, caule digitali basi squamis ovatis obtusis suffulto; foliis petiolatis anguste lanceolatis plerisque radicalibus, caulinis minoribus sparsis, omnibus pinnatisectis 15–20-jugis, segmentis subimbricatis ovato-lanceolatis serrato-dentatis, spica densa multiflora centrifuga, bracteis membranaceis laciniatim 3-partitis, calyce breve pedicellato campanulato, antice vix fisso, 5-dentato, segmento summo lanceolato integro lateralibus oblongis serratis breviore anticisque lanceolatis serratis æquilongo, corollæ rubræ tubo adunco calyce vix dimidio longiore labio galea æquilongo latissimo sessili margine ciliolato, lobo medio rotundato lateralibus flabellatim venulosis vix dimidio minore, galea arcuata tubo subcontinua eique æquilata in rostrum latum breve apice undulato-truncatum angulo inferiori utrinque longe 1-dentatum abeunte, staminibus medio tubo insertis filamentis anticis triente summo hirsutis, posticis prope insertionem tantum parce barbatis, ovario ovato-lanceolato, disco antice tumente, stigmate exserto.

Hab. China; prov. Szechuen, *Pratt* (No. 735). *Caules* 6–8 cm. alti, radicibus 3–4 cm. longis his 0·5 cm. crassis. *Folia* petiolis radicalibus 3 cm., laminis 4 cm. longis, 1·25–1 5 cm. latis, segmentis 4–7 mm. longis 3 mm. latis, pedicellis 0·5 mm. *Flores* calyce 12 mm. longo, 5 mm. lato, corollæ tubo 16 mm. longo, galea 12 mm. longa, rostro 2 mm. longo latoque, labio 12 mm. longo, 16 mm. lato.

The corolla and bracts bring this very close to *P. apodochila*, Maxim., and *P. rubens*, Steph., but it differs so remarkably in habit and foliage (in which respects it simulates the *Hirsutæ* and the *Flammeæ* among *Anodontæ*) from all the *Bidentatæ* hitherto reported, that it is necessary to recognise it as the type of a new group (*Rhynchodontæ*) to be inserted between *Elatæ* and the *Comosæ*.

Besides differing so markedly in general appearance from both *P. apodochila* and *P. rubens*, this differs from *P. apodochila* in having the calyx hardly cleft, the lip rather smaller (not longer than the galea), the corolla-beak rather longer and somewhat differently shaped. The beak is almost exactly that of *P. rubens*, but it differs (as *P. apodochila* does) from that species in having a sessile (not stipitate) lip, and in having serrate (not entire) calyx-teeth.—D. Prain.

Fig. 1. Flower, with bract. 2. Calyx, with style. 3. Half of corolla, showing staminal insertion. 4. Ovary, with disc. 1, 2 *and* 3 *are twice*, 4 *is four times*, *natural size*.

A.L. Singh del,

Pedicularis Hemsleyana, Prain.

Plate 2210.

PEDICULARIS HEMSLEYANA, *Prain.*

Scrophularineæ. Tribe Euphrasieæ.

P. (§ **Rhyncholophæ** §§ **Furfuraceæ**) **Hemsleyana,** *Prain* (*sp. nov.*); elata glabrata rhizomate brevissimo vel parum elongato repente collo paucisquamato squamis ovatis membranaceis, radicibus fibrosis cæspitosis, caulibus elongatis laxis adscendentibus parce foliatis, foliis radicalibus mox evanidis caulinis sparsis longe petiolatis lamina supra glaberrima subtus furfuracea oblongo-ovata pinnatipartita -sectave segmentis 5–8-jugis oblongis serrato-dentatis, floribus laxe racemosis, breve pedicellatis, bracteis foliaceis, calycis membranacei nec fissi 5-dentati segmentis lanceolatis summo acuto reliquis obtusis omnibus integris v. majoribus utrinque 1–2-serratis, corollæ puniceæ tubo sursum ampliato calyce dimidio longiore, labio 3-lobo lobis integris ovatis supparibus medio prominente, galea angulo recto incurva inflata, parte basali erecta fauce 2-auriculata, parte antherifera horizontali in rostrum porrectum apice acutum integrum producta, staminibus ex adverso medii ovarii insertis, filamentis anticis hirsutis, ovario lanceolato, stigmate incluso.

Hab. China; prov. Szechuen; *Pratt* (No. 634).

Caules 45 cm. alti, pennæ corvinæ crassitudine, radicibus 5–8 cm. longis. *Folia* petiolis 1·5–3 cm. longis, lamina 6–8 cm. longa, segmentis majoribus 2–4 cm. longis, 7–12 mm. latis. *Flores* pedicellis 3 mm., calyce 4·5 mm. longo, 2·25 mm. lato, corollæ tubo 6 mm. longo, galeæ parte basali 3 mm. longa, parte horizontali 3·5 mm. longa, rostro 4 mm. longo, labio 7 mm. longo, 7·5 mm. lato (lobo medio 4 mm. longo, 3·25 mm. lato).—D. Prain.

Fig. 1. Flower, with bract. 2. Calyx laid open, showing ovary and style. 3. Half of corolla seen from within, showing staminal insertion. *All* $2\frac{1}{2}$ *times natural size.*

A.L.Singh del.

Phtheirospermum tenuisectum, Bur.& Franch.

Plate 2211.

PHTHEIROSPERMUM TENUISECTUM, *Bur. et Franch.*

Scrophularineæ. Tribe Euphrasieæ.

P. tenuisectum, *Bur. et Franch. in Journ. de Botanique*, v. (1891) 129; perenne, rhizomate lignoso, multicaule, caulibus simplicibus vel parce ramosis foliisque viscido-pubescentibus, foliis oppositis ambitu ovatis acutis dissectim 2–3-pinnatisectis, floribus axillaribus solitariis ebracteolatis, pedicellis brevissimis, calyce campanulato 5-partito dentibus angustis summo subulato integro ceteris lanceolatis pauci-dentatis paulo breviore, corollæ tubo latiusculo superne ampliato fauce hiante, limbo margine ciliato 2-labiato, labio postico erecto brevi 2-lobo lobis replicatis in alabastro interioribus, antico longissimo patente 3-secto segmentis obovatis margine truncatis, præfloratione medio basin 2-gibbum lobosque posticos statim amplectente et lateralibus parum majoribus vicissim obtecto, staminibus, sub galea inclusis, filamentis ex adverso summi ovarii insertis anticis prope basin parum hirsutis ceterum posticisque prorsus glaberrimis, antheris margine rimarum barbatis loculis æqualibus distinctis parallelis basi submucronatis, ovario ovoideo supra et præsertim antice piloso, stylo apice dilatato stigmate 2-lobo, lobo antico parum longiore, ovulis in loculis numerosis, capsula (immatura) compressa rostrata, seminibus (immaturis) ovoideis testa reticulatis.

Hab. Himalaya orientali, Tassi-chen-doom, in valle Chumbi, *Herb. Hort. Calcutt.*; Tibet australi, Karoo-la, prope Lhassam, *Herb. Hort. Calcutt.*; Szechuen occidentali, ad fines orientales Tibetiæ prope oppidum Ta-chien-lu, Pratt (Nos. 283, 528), *Herb. Kew.*

Caules 25–35 cm. longi, pennæ corvinæ crassitudine. *Folia* 2 cm. longa, 2·5 cm. lata, segmentis ultimis vix 1 mm. latis. *Flores* calyce 8 mm. longo, 4·5 mm. lato, dentibus 4 mm. longis, vix 1 mm. latis, sinubus obtusis; corollæ tubo 14 mm. longo; limbo 4·5 mm. lato; labio postico 2·5 mm. longo, 6 mm. lato; labio antico 7 mm. longo, 7·5 mm. lato.

The description of this plant departs from the generic characters assigned to *Phtheirospermum* in the anthers being bearded. There are, however, some hairs present on the margin of the rima towards the base of the anthers of *Phtheirospermum chinense*, Bunge, in *Herb. Calcutt.* specimens. The ovary is almost as hirsute (though the individual

M.S. del. et lith.

Strychnos Ignatii, Berg.

Plate 2212.

STRYCHNOS IGNATII, *Bergius.*

Loganiaceæ.

S. Ignatii, *Bergius, Mat. Med.* i. 146 (1778); scandens, glabra, foliis ellipticis v. ovato-ellipticis breviter acuminatis cuspidatisve conspicue trinerviis, floribus brevissime pedicellatis subsessilibusve cymosis in paniculis brevibus axillaribus folio multo brevioribus dispositis, paniculis breviter pedunculatis, calycis segmentis late ovatis v. ovato-rotundatis, corolla calyce 6–10-plo longiore extus tomentoso-puberula intus glabra v. parce pilosula, lobis limbi ovatis crassiusculis tubo 3–4-plo brevioribus, antheris fauce corollæ tubi insertis sessilibus v. subsessilibus oblongo-ellipticis apice mucronatis, ovario glabro in stylum elongatum attenuatum, bacca globosa v. ellipsoidea * c. 4 poll. diam., polysperma.—*Phil. Trans* (1699) xxi. t. i. figs. 4–6.

Hab. Philippines: Mindanao and Samar, *R. Boxall.*

Folia $3\frac{1}{2}$–6 poll. longa, 2–$3\frac{1}{2}$ poll. lata; petiolus $\frac{1}{2}$ poll. longus. *Paniculæ* cum pedunculo 1–$1\frac{1}{2}$ poll. longæ. *Flores* $\frac{1}{2}$–$\frac{2}{3}$ poll. longi, limbo corollæ $\frac{1}{4}$–$\frac{1}{3}$ poll. diam. *Bracteæ* ovatæ acutiusculæ concavæ, majores 1 lin. longæ. *Stylus* filiformis ovario multoties longior. *Pericarpium* sublæve olivaceum crustaceum. *Semina* in pulpa nidulantia ellipsoidea obtuse angulata $1\frac{1}{3}$–$1\frac{1}{2}$ poll. longa, 8–10 lin. lata, pilis brevibus nitentibus appressis sericea.

Mr. Boxall, the collector of the specimens, both in flower and fruit (the latter preserved in spirits), here figured, says that there is another species of *Strychnos*, known as St. Ignatius's Bean, which is much more plentiful than this plant, and that it is the seeds of this other species which are exported as St. Ignatius's beans. The seeds of the plant here figured are, however, used in medicine in the Philippines under the same name.

Why, then, refer this plant to *Strychnos Ignatii*, of Bergius, rather than to the commoner species affording the exported seeds?

S. Ignatii was based by Bergius, in his 'Materia Medica,' i. 146 (1778), upon the description contained in a letter from Father Camelli, addressed to John Ray and James Petiver, an abstract of

* Mr. Boxall says the form of the fruit is variable, two never precisely alike.

which is given in Phil. Trans. xxi. (1699), No. 250 (and abridged edition, vol. iv. 356). A figure of the leaves, fruit, and seed is given in the unabridged edition, the leaves and fruit being reproduced in Bentley and Trimen's 'Medicinal Plants,' iii. t. 179. In the figure cited of the leaves, the lateral nerves are basal in their origin, that is they are tri- or quinque-nerved, not tripli- or quintupli-nerved (that is, diverging from the midrib above the base). And it is upon this foliar character we are obliged to depend, for the flowers are not intelligibly described,* and there is reason to think the fruits of the two species do not materially differ.

In Camelli's figure of the leaves, the lateral nerves all originate at the base of the lamina. Now there are only two species likely to afford these seeds in the southern islands of the Philippine group in the Kew Herbarium, viz., one with the lateral nerves basal (here figured), and *S. multiflora*, Benth., figured in the following plate, in which the lateral nerves next to the midrib are coalescent with it to about $\frac{1}{3}$–$\frac{1}{2}$ inch above the base of the lamina. It is on this ground, therefore, it would seem to be more prudent to regard this plant as probably identical with Camelli's, named by Bergius; while we have, at any rate, a sure name for the other species, viz. that given by Mr. Bentham, *S. multiflora*, one of whose type specimens we figure (Pl. 2213).

Owing to the confusion introduced by Linnæus fil., Suppl. Plant. (1781) 149, who based his description of the flowers of *Ignatia amara* on a *Posoqueria*, as pointed out by Mr. Bentham (Journ. Linn. Soc. i. 108), and to discrepancies in the description given by other authors, I have not ventured to cite any synonymy in the usual form. But, taking the principal postlinnean references to St. Ignatius's beans in the order of date, they stand thus: Bergius's 'Materia Medica,' in which the plant was first named, appeared, as cited above, in 1778. *Ignatiana philippinica*, Loureiro, Fl. Cochinch. (1790), i. 126, continues the muddle of the 'Supplementum,' under slight modification of the generic and complete change of the specific name. He adds *S. Ignatii*, Berg., as a synonym.

Ignatia amara, Linn. f., is adopted by Blanco in his Flora Filip. (1837), 82, the description of the flowers being taken from Linn. fil.; but in the second edition of this work (ed. 1845, 61), having in the meantime received flowers independently from Bohol, he reverts to the genus *Strychnos*, naming the plant *S. philippensis*, and modifying the description of the flowers in accordance with the new material. The same name is retained in the folio edition of Blanco, by Naves (1877), i. 116, with an additional note on the seeds in the 'Appendix' (1880), 136.

Bentley and Trimen, 'Medicinal Plants,' 1880, iii. 179, adopt Bergius's name, and cite as synonyms Loureiro's name and that given by Blanco in

* '. . . florem Balaustiæ similem.'

his second edition. Their description, however, of the flowers, taken from Blanco and Loureiro, is a compromise between that given by Linn. fil. of a *Posoqueria* and the corrected description of Blanco (ed. ii.). They reproduce the leaves, fruit, and seed from Phil. Trans., xxi. (1699), t. i. figs. 4–6.

Professor Flückiger and A. Meyer, in the 'Pharmacentical Journal,' 1881, vol. xii. (July 2), give a careful account of the fruit of *S. Ignatii*, with full detail of the histology of the seed and curious hairs of the testa. This agrees with our plant, so far as I can see. They also add copious references to the literature of the subject.

Finally, adopting Bergius's name, Vidal, in his Revision de Plant. Vasc. Filip. (1886), 450, quotes Blanco's name from his second edition, and the names given by Linn. f. and Loureiro as synonyms, but figures, in two plates, a short-flowered *Strychnos*, the corolla bearded in the throat, and altogether only twice as long as the calyx, in which characters it agrees with *S. multiflora*, Benth., although he figures the leaves as tri-nerved, not tripli-nerved as in that species. As his description, however, definitely states the lateral nerves are given off 5–10 mm. above the base, I can hardly hesitate to regard his figure as intended to represent Mr. Bentham's plant figured in our next plate.

Messrs. C. Ford and W. E. Crow, in the 'China Review,'* in their 'Notes on Chinese Materia Medica,' accept Vidal's conclusions referred to above. From seeds forwarded to the Royal Gardens, Kew, by Alexander Gollan, Esq., H.M. Consul at Manila, the plant is now in cultivation, though it has not yet reached the flowering stage. —D. Oliver.

Fig. 1. Bud. 2. Corolla, laid open. 3. Anthers. 4. Pistil. 5. Fruit. 6. Seed. 7. Longitudinal section of same, showing ovary. *All enlarged.*

* An extract received at Kew in July 1887, pp. 274–5.

M.S del. et lith.

Strychnos multiflora. Benth

Plate 2213.

STRYCHNOS MULTIFLORA, *Benth.*

Loganiaceæ.

S. multiflora, *Benth. in Journ. Linn. Soc.* i. (1857) 102; glabra, foliis late ellipticis v. ovato-ellipticis breviter et obtusiuscule acuminatis triplinerviis, floribus 5-meris cymosis in paniculis multifloris terminalibus et in axillis foliorum superiorum dispositis, pedicellis ternis calyce subæquilongis, corollæ rotatæ limbo tubo æquilongo, tubo calyce temp. florifero 2-plo longiore ore villoso, limbi lobis ovato-lanceolatis acutiusculis crassiusculis intus (sicco) cano-puberulis, antheris exsertis, ovario ovoideo piloso stylo elongato 3–4-plo breviore.

Hab. Philippines, Luzon, *Cuming* (Nos. 641, 695, 1,059, 1,482). Luzon, District of Morong, *Vidal* (No. 1,615).

Folia 3–7 poll. longa, $1\frac{3}{4}$–$3\frac{3}{4}$ poll. lata; petiolus $\frac{1}{4}$–$\frac{2}{3}$ poll. longus. *Flores* $\frac{1}{4}$–$\frac{1}{3}$ poll. diam. *Calyx* segmentis ovato-rotundatis ciliclatis.

The leaves are 3- or 5-nerved, but the inner lateral nerves coalesce with the midrib to $\frac{1}{3}$–$\frac{1}{2}$ in. above the base.

The only fruits which I have seen are immature, not exceeding an inch or two in diameter. When ripe it is probably globose or ellipsoidal and $3\frac{1}{2}$ to 5 ins. in diameter. Our specimens are destitute of cirrhi.

We have thought it desirable to give an authentic figure of this plant from type specimens, in view of the ambiguity attending the plate, given by Vidal, of what he considered to be *S. Ignatii*, Bergius. See remarks under preceding plate.—D. Oliver.

Fig. 1. Bud. 2. Corolla, laid open. 3. Pistil. 4. Tranverse section of ovary. *All enlarged.*

Pertya sinensis, Oliv.

Plate 2214.

PERTYA SINENSIS, *Oliv.*

Compositæ. Tribe Mutisiaceæ.

P. sinensis, *Oliv.* (*sp. nov.*); foliis oblongo-lanceolatis in ramulis annotinis sæpe in axillis fasciculatis acutiusculis v. obtusis integris basi in petiolum brevem angustatis, capitulis 10–12-floribus in axillis foliiferis pedunculatis pedunculo involucro 2–3-plo longiore, involucro campanulato squamis glabratis marginibus puberulis exterioribus brevioribus late ovatis acutiusculis interioribus oblongis oblanceolatisve obtusis, achæniis involucro æquilongis elongatis utrinque leviter angustatis compresciusculis longitudinaliter 10-costatis pilis albescentibus basin versus purpurascentibus erectis sericeis, pappi setis simplicibus rigidiusculis achænio paullo brevioribus.

Hab. China, Prov. Hupeh, Hsingshan, 9,000 feet, *Dr. A. Henry* (No. 6,982).

Frutex 6-pedalis, ramulis gracilibus annotinis sulcatis. *Folia* 2 poll. longa, $\frac{1}{2}$–$\frac{3}{4}$ poll. lata. *Involucrum* fructiferum $\frac{1}{2}$ poll. longum. *Corolla* 5-fida segmentis angustis acuminatis. *Antheræ* basi longe caudatæ, caudis per paria coalitis pilosulis.

A genus new to China; previously known to us from Japan and the Kurrum Valley, Afghanistan. Our plant is much more nearly allied to *P. Aitchisoni* from the latter region than to either of the two Japanese species. *P. Aitchisoni* is described (C. B. Clarke in *Journ. Linn. Soc.* xviii. 72) as with sessile capitula, but we have specimens in which they are pedunculate as in *P. sinensis*. The most marked distinction consists in the sericeous achenes of the latter, which are about equal in length to the involucre.—D. Oliver.

Fig. 1. Floret. 2. Seta of pappus. 3. Anthers. 4. Style-branches. 5. Achene. *All enlarged.*

M. S. del, et lith.

Lloydia ixiolirioides, Baker.

Plate 2215.

LLOYDIA IXIOLIRIOIDES, *Baker.*

Liliaceæ. Tribe Tulipeæ.

L. ixiolirioides, *Baker MSS.* (*sp. nov.*) ; herba glabra 1¼-pedalis, bulbo anguste ovoideo, foliis radicalibus circa 5, caulinis paucis reductis remotisque anguste linearibus gramineis obtusiuscule acuminatis scapo brevioribus, floribus paucis (c. 4) erectis longe pedunculatis laxe corymbosis, perianthii segmentis exterioribus anguste lanceolatis apice leviter galeatim inflexis, interioribus ovalibus marginibus tenuissimis basi intus lineis 2 pilosulis utrinque instructis, staminibus perianthio triente brevioribus, filamentis anguste linearibus pilosis antheris oblongis basifixis 3–4-plo longioribus, ovario glabro stylo æquilongo.

Hab. In a collection made in West Szechuen, and on the Tibetan frontier ; chiefly near Tachienlu, alt. 9,000–13,500 feet, *Pratt* (No. 533).

Folia radicalia 10–12 poll. longa, 1½–2 lin. lata. *Flores* 9–10 lin. longi.

The perianth-segments in the dried specimens are darkly longitudinally striate and of a deep brownish-purple below and on the median line, the margins below orange-brown, above paler or whitish.—D. Oliver.

Figs. 1 and 2. Outer and inner perianth-segments. 3. Stamen. 4. Pistil. *Enlarged.*

M S.del, et lith.

Lloydia tibetica, Baker.

PLATE 2216.

LLOYDIA TIBETICA, *Baker*.

LILIACEÆ. Tribe TULIPEÆ.

L. tibetica, *Baker MSS.* (*sp. nov.*); herba glabra 6–10-pollicaris, bulbo anguste ovoideo, foliis radicalibus caule brevioribus erectis linearibus obtusiuscule acuminatis caulinis 0 v. interdum supra medium 1-2 minoribus instructis, floribus pedicellatis, cernuis in cymis corymbosis 2–5-floris dispositis, perianthii segmentis oblongo-ellipticis v. ovato-lanceolatis obtusis basi intus haud transversaliter plicatis sed cristis adnatis brevibus oblongis breviter pilosulis instructis, staminibus perianthio duplo v. subtriplo brevioribus, filamentis lineari-subulatis basi complanatis laxe pilosis, antheris basifixis oblongis obtusis, ovario glabro stylo columnari breviore.

HAB. In a collection made in West Szechuen and on the Tibetan frontier, chiefly near Tachienlu, 9,000–13,500 feet alt., *Pratt* (No. 857).

Folia 4–7 poll. longa, 1–2 lin. lata. *Perianthium* 6–7 lin. longum; bracteæ herbaceæ lineares.

The perianth-segments in our dried specimens are marked with dark longitudinal striæ, especially along the middle, and coloured a yellowish-brown, paler above and towards the margins.—D. OLIVER.

Figs. 1 and 2. Outer and inner perianth-segments. 3. Stamen. 4. Pistil. *Enlarged.*

M.S. del. et lith.

Polygonatum Prattii, Baker.

PLATE 2217.

POLYGONATUM PRATTII, *Baker.*

LILIACEÆ. Tribe POLYGONATEÆ.

P. Prattii, *Baker MSS.* (*sp. nov.*); herba 3–5-pollicaris, rhizomate gracile longe repente, caule erecto gracile inferne nudo, foliis paucis (3–4) alternis sessilibus oblongo-lanceolatis v. -ellipticis apice acutatis obtusiusculis, floribus cernuis in cymis 2-floris breviter pedunculatis v. solitariis, perianthio tubuloso breviter 6-fido, lobis quam tubo 4–5-plo brevioribus ovato-oblongis apice carnosulis papillosis alternatim (interioribus) paululo brevioribus, staminibus inclusis tubo subæquilongis, filamentis fere ad apicem adnatis, antheris linearilanceolatis brevissime mucronulatis, ovario ellipsoideo glabro stylo 3-sulcato subbreviore.

HAB. In a collection made in West Szechuen and on the Tibetan frontier; chiefly near Tachienlu, 9,000–13,500 feet alt., *Pratt* (No. 28*).

Folia $1\frac{1}{4}$–$1\frac{3}{4}$ poll. longa, c. 5 lin. lata. *Flores* 4–5 lin. longi; pedicelli flore longiores v. subæquilongi.

The dried flowers are whitish, probably coloured above. The six vascular cords of the perianth are continued from the insertion of the anther to the apices of the segments.—D. OLIVER.

Fig. 1. Perianth laid open. 2. Pistil. *Enlarged.*

M.S. del, et lith.

Polygonatum Hookeri, Baker.

Plate 2218.

POLYGONATUM HOOKERI, *Baker.*

Liliaceæ. Tribe Polygonateæ.

P. Hookeri, *Baker in Journ. Linn. Soc.* xiv. 558; herba 1–2-pollicaris, rhizomate gracili longe repente, caule florifero adscendente brevissimo, foliis tempore florifero vix evolutis alternis v. suboppositis inferioribus (cataphyllis) membranaceis $\frac{3}{4}$–1 poll. longis superioribus confertis adscendentibus oblongo-lanceolatis basi angustatis apice obtusiusculis, flore solitario erecto breviter pedunculato folia paullo superante, perianthio tubuloso-infundibuliforme 6-fido, lobis tubo fere æquilongis subpatentibus ovali-oblongis basi leviter angustatis apice obtusiusculis carnosulis papillosis longitudinaliter 1-nervosis, staminibus tubo inclusis, filamentis fere ad apicem adnatis, antheris oblongis.

Hab. In a collection made in West Szechuen and on the Tibetan frontier; chiefly near Tachienlu, alt. 9,000–13,500 feet, *Pratt*, (No. 867); Sikkim Himalaya, 10–11,000 feet, *Hooker*, *Pantling*.

Folia (temp. florif.) $\frac{1}{2}$–$\frac{3}{4}$ poll. longa, internodiis brevissimis. *Flores* $\frac{2}{3}$–$\frac{3}{4}$ poll. longi, ut videtur purpurascentes v. lilacini.

Our figure is from Mr. Pratt's specimens, which do not appear to differ from the Sikkim ones, unless it be that the leaves of the latter tend to be a trifle broader below the middle.—D. Oliver.

Fig. 1. Perianth, laid open. 2. Pistil. *Enlarged.*

M.S. del. et lith.

Fritillaria lophophora, Bur. & Fr.

PLATE 2219.

FRITILLARIA LOPHOPHORA, *Bur. et Franch.*

LILIACEÆ. Tribe TULIPEÆ.

F. lophophora, *Bureau et Franchet in Journ. de Botanique*, 1891, 153; bulbo squamato squamis majusculis erectis oblongo-lanceolatis carnosis tempore florifero laxiusculis, caule 1–2 floro inferne pauci-squamoso, foliis medium versus caulis plus minus confertis alternis ovali- v. lanceolato-oblongis superioribus acuminatis inferioribus acutiusculis obtusisve, perianthio magno (2–4 poll. diam.) cernuo longiuscule pedunculato, segmentis subpatentibus lanceolatis æquilongis et subæquilatis (v. exterioribus paullo angustioribus) longe acuminatis basi secundum costam utrinque fimbriato-cristatis v. cristis interdum obsoletis, staminibus perianthio 2–3-plo brevioribus, filamentis glabris lineari-subulatis, antheris linearibus dorsifixis, ovario glabro stylo apice leviter dilatato 3-lobulato subæquilongo.

HAB. In a collection from West Szechuen and the Tibetan frontier, chiefly made near Tachienlu, alt. 9,000–13,500 feet; *Pratt* (Nos. 261, 568), Szechuen, between Batang and Litang, *M. Bonvalot and Prince Henry of Orleans*; Yun-nan, *M. Delavay*.

Bulbi squamæ $1\frac{1}{4}$–2 poll. longæ. *Caulis* $\frac{1}{2}$–$1\frac{1}{2}$-pedalis. *Folia* majora 4–5 poll. longa, $\frac{3}{4}$–1 poll. lata (forma minor 2 poll. longa, 4–5 lin. lata). *Perianthii* segmenta $1\frac{3}{4}$–3 poll. longa.

Intermediate between *Fritillaria*, to which MM. Bureau and Franchet refer it (as the type of a new section of the genus, § *Lophophora*) and *Lilium*. The flowers are described as yellow, often spotted with red.—D. OLIVER.

Fig. 1. Stamens, back and front view. 2. Pistil. *Enlarged.*

M.S.del.et lith.

Coriaria terminalis, Hemsl.

Plate 2220.

CORIARIA TERMINALIS, *Hemsl.*

Coriarieæ.

Coriaria terminalis, *Hemsl.* (*sp. nov.*) ; herbacea, foliis sæpius rotundatis 7–9-nerviis, racemis elongatis terminalibus.

Hab. In a collection from West Szechuen and the Tibetan frontier, chiefly near Tachienlu, alt. 9,000–13,500 feet, *Pratt* (No. 820). Also from several localities in Sikkim at elevations of 9,000 to 11,000 feet, namely Lachen, Changtum and Samdong, collected by *Sir J. D. Hooker*.

Herba perennis (ut videtur), caulibus erectis 2–3-pedalibus pauciramosis crassiusculis. *Folia* opposita vel subopposita, sessilia vel brevissime petiolata, membranacea, late ovata vel interdum fere orbicularia, vel in ramulis lateralibus oblongo-lanceolata 1–3 poll. longa, abrupte breviterque acuminata, basi cordata et semiamplexicaulia vel rotundata, 5–9-nervia sed sæpissime 7-nervia, subtus præcipue secus nervos asperula. *Flores* polygami in racemos solitarios terminales 5–7 poll. longos dispositi, pedicellis gracilibus puberulis vel asperulis circiter semipollicaribus, demum patentibus. *Sepala* ovata vel lanceolata obtusa vel acuta. *Petala* per anthesin parva quam sepala multo minora, post anthesin accrescentia, incrassata, intus carinata. *Carpella* glabra, carinata, sæpius 2-costata.*

In the 'Flora of British India' this very distinct species is not distinguished from *C. nepalensis*, Wall., though in the Kew Herbarium it is marked *var. sikkimensis* in the handwriting of Sir J. Hooker.

Coriaria nepalensis, Wall., is quite woody, and has three-nerved glabrous leaves, and short, often clustered, lateral racemes. It ranges from North-western India into Central China; and the Japanese *C. japonica*, A. Gray, presents no obvious differences any more than specimens in the Kew Herbarium from the Philippine Islands.—W. B. Hemsley.

Fig. 1. Flower and bract. 2. Sepal. 3. Anther, back and front view. 4. Pistil. 5. Longitudinal section of carpel. 6. Persistent corolla enclosing fruit. 7. Fruit carpel. 8. Embryo. *All enlarged.*

* Fruit figured and described from an Indian specimen.

M.S. del. et lith.

Dendrophthora cupressoides, Eichl.

Plate 2221.

DENDROPHTHORA CUPRESSOIDES, *Eichler.*

Loranthaceæ. Tribe Visceæ.

D. cupressoides, *Eichl. in Martius, Fl. Bras.* (*Loranth.*), v. pt. ii. 103 (*ad not.*); fruticulosa aphylla fastigiatim ramosissima, ramis teretibus papilloso-scabridis, squamis parvis ovato-deltoideis appressis connatis, spicis floriferis sæpius 2–4-articulatis, articulis brevibus, bifloris, floribus monoicis decussatim oppositis, floribus ♂ paucis, perianthio 3- (v. interdum 4-)fido, segmentis crassis late deltoideo-ovatis, antheris sessilibus lunulatis basi segmentorum insertis rima transversa dehiscentibus, fl. ♀ perianthii limbo 3(–4)-partito segmentis crassis deltoideis. *Arceuthobium cupressoides*, Gris. Fl. Brit. W. Ind. 315.

Hab. Jamaica, *Macfadyen* (at Castleton), *Morris, Fawcett.*

Internodia caulina inferiora crassitie pennæ gallinaceæ, 3–5 lin. longa, superiora c. 2 lin. longa. *Spicæ* articuli $1\frac{1}{4}$–2 lin. longi.

Dr. Eichler cites (l. c.), as identical, *Phoradendron serpyllifolium*, Gris. Pl. Wright, 192, a Cuban species, but I doubt whether it be the same. I have refrained from any description of the ovule and embryogeny, as this would involve prolonged investigation unfitted for 'Icones Plantarum.' We may hope to find some competent observer willing to take in hand the detailed examination of the excellent specimens, preserved in alcohol, communicated by Messrs. Morris and Fawcett.—D. Oliver.

Fig. 1. Portion of inflorescence with staminate flowers. 2. Staminate flowers from above. 3. Joint of inflorescence with pistillate flowers. 4. Pistillate flower detached. *All enlarged.*

M.S.del. et lith.

Thladiantha longifolia, Cogn.

THLADIANTHA LONGIFOLIA, *Cogn.*

CUCURBITACEÆ. Tribe CUCUMERINEÆ.

T. longifolia, *Cogniaux MS. in Herb. Kew.*; scandens, caule gracile angulato v. profunde sulcato glabro v. obsolete puberulo, foliis ovato-lanceolatis subacuminatis apice obtusiusculis glandulosis basi profunde cordatis cum sinu cordato, margine glanduloso-denticulatis supra scabridis v. lævibus, cirrhis simplicibus, fl. ♂ flavidis in cymis paucifloris (5–7-floris) breviter pedunculatis dispositis, calycis tubo turbinato, limbi segmentis tubo æquilongis v. longioribus corolla brevioribus linearibus acutiusculis squama calycina incurva rotundata, corolla rotata 5-partita, segmentis oblongo-ellipticis obtusiusculis 3-nerviis, staminibus 5 liberis 4 per paria symmetrice approximatis, antheris rectis oblongo-ellipticis filamentis æquilongis, fl. ♀ etiam in cymis 1–3-floris breviter pedunculatis dispositi, longiuscule pedicellatis, perianthio maris, ovario utrinque breviter angustato basi lobulato profunde intruso, puberulo tuberculato-rugoso, staminodiis parvis, stylo columnare apice 3-fido stigmatibus dilatatis.

HAB. China, Hupeh, in Patung and Kuei Districts, *Dr. A. Henry* (Nos. 4,767, 6,055).

Folia 3–7 poll. longa, basi $1\frac{1}{2}$–3 poll. lata; petiolus $\frac{1}{2}$–$1\frac{3}{4}$ poll. longus. *Flores* 1 poll. diam.; pedicelli fl. ♂ $\frac{1}{4}$–$\frac{1}{3}$ poll., ♀ $1\frac{1}{2}$–2 poll. longi.

A dried and pressed immature fruit, about $1\frac{1}{2}$ in. long, is ellipsoidal, puberulous, and apparently somewhat transversely plicate-rugose. In the pistillate flower are three fleshy, pale, slightly prominent, disk-like projections between the staminodia, at the base of the petals.—D. OLIVER.

Fig. 1. Portion of calyx-tube, showing insertion of stamens and calycine squama. 2. Stamen, back and front view. 3. Staminodes, style and stigmas. *All enlarged.*

M. S. del et lith

Thladiantha ? Henryi, Hemsl.

Plate 2223.

THLADIANTHA? HENRYI, *Hemsl.*

Cucurbitaceæ. Tribe Cucumerineæ.

T.? Henryi, *Hemsl. in Journ. Linn. Soc.* xxiii. 316; alte scandens, caule angulato v. profunde sulcato glabro v. interdum parce setuloso v. puberulo, foliis cordiformibus acutis v. cuspidatis indivisis fere æqualiter denticulatis basi sinu profundo rotundato excavatis supra scabris v. scaberulis subtus puberulis glabratisve, petiolo eglanduloso in foliis superioribus sæpius quam lamina breviore, cirrhis bifidis v. ramo altero interdum obsoleto, fl. ♂ luteis in racemis plurifloris axillaribus sæpe paniculatim aggregatis dispositis, pedicellis gracilibus flore subæquilongis v. inferioribus sæpe 2–3-plo longioribus, calycis tubo turbinato intus squamis 2 ovato-rotundatis obtusis incurvis clauso, lobis tubo æquilongis (v. alabastro 2-plo longioribus) lanceolatis acuminatis, corollæ ad basin 5-partitæ segmentis ovato-oblongis acuminatis longitudinaliter nervosis, staminibus 5, 4 per paria approximatis, filamentis crassiusculis anthera oblongo-elliptica recta æquilongis, fl. ♀ axillaribus sæpius geminis ternisve interdum longe pedunculatis, corolla maris, staminodiis 5 parvis setuloso-hirsutis, stylo brevi crasso, stigmate dilatato 3-fido segmentis medio sulcatis apice obtuse bidentatis, ovario ovali-oblongo basi intruso tomentello-puberulo et interdum etiam parce setuloso-pilosulo, fructu ellipsoideo pericarpio transversim plicato, seminibus compressis oblongo-obovoideis testa crustacea sublæve per margines bivalve.

Hab. China, Prov. Hupeh, districts of Patung, Chienshih and Hsingshan, *Dr. A. Henry* (Nos. 1,757, 5,900, 5,936, 6,563), apparently also a form of the same from Szechuen, Mount Omei, *Faber.*

Folia inferiora 4–8 poll. longa, $3\frac{1}{2}$–6 poll. lata; petiolus 2–5 poll. longus. *Flores* ♂ $1\frac{1}{2}$ poll. diam.; fl. ♀ cum ovario $1\frac{1}{2}$–2 poll. longi. *Fructus* $2\frac{1}{2}$–4 poll. diametro. *Semina* $\frac{1}{4}$ poll. longa.

I have thought it best to figure this as it was named by Mr. Hemsley, though my friend M. Cogniaux, on his first inspection of Dr. Henry's specimens, referred it to *Momordica*, I believe on the ground of the two calycine squamæ. On further examination, however, and comparison with a plant in the Paris Herbarium, upon which M. Cogniaux proposes to base a new genus, he inclines to regard *Thladiantha? Henryi* as a congener, and may probably publish it under the new generic name of *Thladianthopsis.* An ovary with the base similarly intruded occurs in *Thladiantha longifolia*, *T. verrucosa*, and *T. glabra*, Cogn. *T. Oliveri*, Cogn., has a broad truncate base, and *T. maculata*, Cogn., a narrow base, terminating abruptly These specific names are still in manuscript in M. Cogniaux's determinations of Dr. Henry's Chinese Cucurbitaceæ.—D. Oliver.

Fig. 1. Portion of calyx-tube, showing insertion of stamens and calycine squamæ. 2. Anther, back and front view. 3. Ovary, with staminodia, style, and stigmas. 4. Seed. 5. Embryo. 6. Fruit. *Excepting No.* 6, *enlarged.*

M S del, et lith.

Schizopepon dioicus, Cogn.

Plate 2224.

SCHIZOPEPON DIOICUS, *Cogn.*

Cucurbitaceæ. Tribe Gynostemmeæ.

S. dioicus, *Cogn. MS. in litt.*; gracilis scandens, caule glabro, foliis membranaceis late ovato-cordatis acuminatis basi sinu rotundato excavatis utrinque 2–3-deltoideo-lobatis minute denticulatis glabris v. pauce setulosis lamina petiolo æquilonga v. sæpius longiore, cirrhis bifidis floribus ♂ parvis ebracteatis in racemis v. paniculis racemiformibus angustis gracilibus axillaribus dispositis, calycis lobis linearisubulatis corollæ lobis oblongo-lanceolatis obtusis brevioribus, staminibus 3 (2 biloc., 1 uniloc.), filamentis ad apicem coalitis, antheris liberis v. basi brevissime connatis, fl ♀ ovario ovoideo apice producto glabro 3-loculare, ovulis solitariis pendulis, staminum rudimentis minutis, stylo apice 3-fido, fructu solitario longiuscule et graciliter pedunculato, ovoideo v. oblongo-ovoideo pericarpio tenui plus minus longitudinaliter verrucoso.

Hab. China, Prov. Hupeh, Districts of Patung and Chienshih, *Dr. A. Henry* (Nos. 4,862, 5,991).

Folia $1\frac{3}{4}$–3 (–4) poll. longa, $1\frac{1}{2}$–$2\frac{1}{2}$ (–3) poll. lata. *Flores* ♂ $\frac{1}{10}$ poll. diam. *Fructus* 5–6 lin. longus; pedunculo fructifero 1–$1\frac{1}{2}$ poll. longo.

Though the fruit appears to be solitary on slender elongate peduncles without evidence of fallen flowers, yet I find, sometimes in the same axil, an abbreviated few-flowered inflorescence of small ♀ flowers.

This plant with its monadelphous stamens forms a connecting link with *Gynostemma*.—D. Oliver.

Fig. 1. Staminate flower. 2. Staminal column and anthers. 3. Pistillate flowers. 4. Ovary and style-branches. *All enlarged.*

M. S. del, et lith.

Gynostemma cardiosperma, Cogn..

Plate 2225.

GYNOSTEMMA CARDIOSPERMA, *Cogn.*

Cucurbitaceæ. Tribe Gynostemmeæ.

G. cardiosperma, *Cogn. MS. in litt.*; caule gracili sulcato glabro, foliis pedato-5–7-foliolatis, foliolis membranaceis lanceolatis v. oblongo-ellipticis acuminatis basi angustatis grosse et sæpe inæqualiter dentato- (vel interdum crenato-)serratis centrali longiuscule petiolulato, glabris v. interdum costa marginibusque minute setuloso-scaberulis, cirrhis gracilibus bifidis, floribus dioicis parvis, ♂ in paniculis gracilibus racemiformibus terminalibus v. quasi-axillaribus folio subæquilongis dispositis, calycis lobis oblongo-lanceolatis acutis petalis lanceolatis caudatis 1-nerviis dimidio brevioribus, filamentis coalitis, antheris peltatim capitatis 1-locularibus longitudinaliter dehiscentibus, fl. ♀ perianthio maris, ovario $\frac{1}{2}$-inferiore apice libero stylisque crassiusculis divergentibus facie sulcatis hirtellis, ovulis geminatis pendulis, capsula subglobosa v. hemisphærica glabra v. laxe pilosula calycis limbo medio circumdata apice tricornuta tricrurim dehiscente, pericarpio tenuiter crustaceo, seminibus compressiusculis late cordiformibus testa crustacea rugulosa faciebus verrucosa margine sulcata.

Hab. China, Prov. Hupeh, Fang District, *Dr. A. Henry* (Nos. 6,701 var. capsulis molliter pilosulis, 6,779, 7,613).

Folium petiolo 1–2 poll. longo, foliolo intermedio $1\frac{1}{2}$–4 poll. longo. *Capsula* $\frac{1}{3}$ poll. diam. *Semina* 2–$2\frac{1}{2}$ lin. lata.

Although the flowers are distinctly those of *Gynostemma*, the fruit dehiscing tricrurally at the apex is that of *Gomphogyne*.—D. Oliver.

Fig. 1. Staminate flowers. 2. Staminal column and anthers. 3. Pistillate flower. 4. Style-branches, side view. 5. Seed. *All enlarged.*

VOL. III.—PART II.] [SEPTEMBER.

HOOKER'S

ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS,

OF NEW AND RARE PLANTS,

SELECTED FROM THE

KEW HERBARIUM.

FOURTH SERIES.

EDITED FOR THE BENTHAM TRUSTEES BY

DANIEL OLIVER, F.R.S., F.L.S.

EMERITUS PROFESSOR OF BOTANY IN UNIVERSITY COLLEGE, LONDON: LATE KEEPER OF THE HERBARIUM AND LIBRARY, ROYAL BOTANIC GARDENS, KEW.

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OR VOL. XXIII. OF THE ENTIRE WORK.

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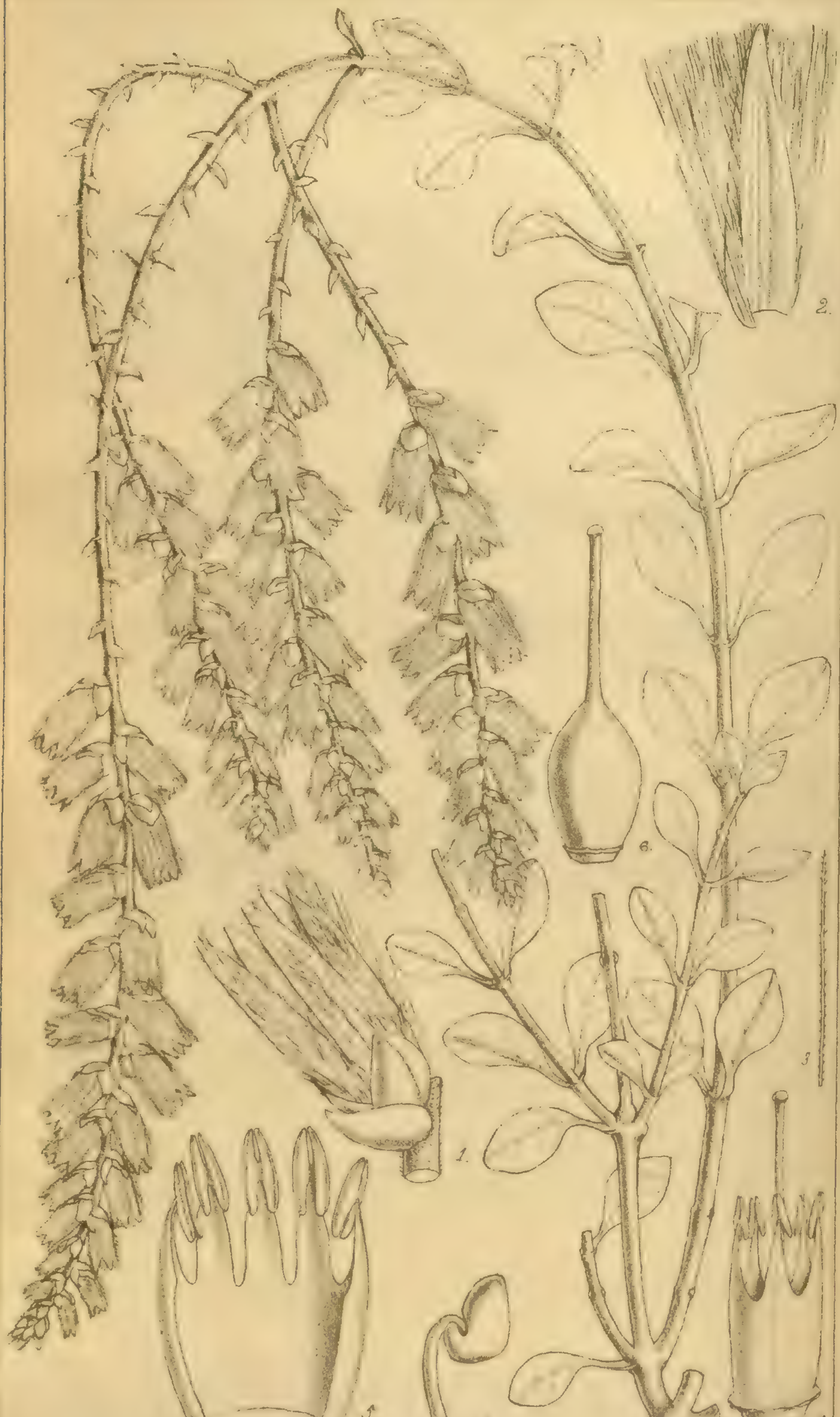

M.S. del et lith.

Chionothrix somalensis, Hk.f.

PLATE 2226.

CHIONOTHRIX SOMALENSIS, *Hook. f.*

AMARANTACEÆ. Subtribe ACHYRANTHEÆ.

C. somalensis, *Hook. f. Gen. Plant.* iii. 33; frutex, ramulis teretibus glabrescentibus hornotinis gracilibus fulvo-hirtellis v. puberulis, foliis oppositis obovato-ellipticis obtusis setuloso-scabridis coriaceis petiolatis, floribus in spicas elongatas terminales solitarias v. 2–4-nas dispositis, bractea bracteolisque subæqualibus concavis ovatis v. rotundato-ovatis perianthio multo brevioribus, perianthii segmentis 5 coriaceis lineari-lanceolatis acutis marginibus hyalinis dorso pilis argenteis longis erectis minute barbellatis vestitis basi ad discum incrassatis, staminibus 5 inferne in tubum coalitis laciniis anantheris 0, antheræ lobis 2 apice basique liberis, ovario ellipsoideo glabro stylo gracile breviore. Sericocoma somalensis, *S. Moore in Journ. Bot.* XV. (1877), 70.

HAB. Somali Land, Ahlgebirge, 1,100 metr. alt., *Hildebrandt* (No. 1,519).

Frutex c. 10-pedalis. *Folia* $\frac{1}{2}$–$\frac{3}{4}$ poll. longa, $\frac{1}{3}$–$\frac{2}{3}$ poll. lata; petiolus $\frac{1}{8}$ poll. longus. *Spicæ* 4–6 poll. longæ; bracteæ persistentes $\frac{1}{8}$–$\frac{1}{6}$ poll. longæ, bracteolæ cum flore deciduæ. *Flores* $\frac{1}{3}$–$\frac{1}{2}$ poll. longi.—D. OLIVER.

Fig. 1. Flower and subtending bracts. 2. Perianth-segment. 3. Hair from same. 4. Staminal tube. 5. The same laid open. 6. Pistil. 7. Ovule and funicle. *All enlarged.*

M.S del. et lith.

Dicraurus leptocladus, Hk.f.

Plate 2227.

DICRAURUS LEPTOCLADUS, *Hook. f.*

Amarantaceæ. Tribe Gomphreneæ.

D. leptocladus, *Hook. f. in Gen. Plant.* iii. 43; frutex ramosus, ramulis gracilibus elongatis teretibus appresse sericeo-tomentosis, annotinis glabrescentibus, foliis alternis parvis petiolatis lanceolatis v. ovato-lanceolatis acutis integerrimis subtus præcipue sericeo-tomentosis, floribus ♀ ♂ glomerulatis sessilibus secus ramos divaricatos paniculæ terminalis dispositis, bractea ovata cum bracteolis rotundatis concavis scariosis dorso plus minus lanatis subæquilongis perianthio (fl. ♂) brevioribus, floribus ♂ : perianthii 5-partiti segmentis oblongis dorso dense albido-lanatis, staminibus antheriferis 5 v. paucioribus cum rudimentis 2-4 subulatis intermediis, filamentis anguste lineari-subulatis, antheris 1-locularibus dorsifixis oblongo-ellipticis, ovarii rudimento ellipsoideo apice 2-fido, fl. ♀: ovoideo-rotundatis perianthii segmentis angustis bracteolis brevioribus, ovario glabro ovoideo, stylo bifido lobis subulatis, ovulo solitario ab apice funiculi suspenso, cotyledonibus complanatis radicula latioribus.

Hab. New Mexico (Expedition from Western Texas to El Paso), *C. Wright* (No. 589); Mexico, near Chihuahua, *Pringle* (No. 345).

Folia (in ram. florif.) $\frac{1}{2}$–$\frac{3}{4}$ poll. longa. *Paniculæ* sæpe 6 poll. longæ; flores 1 lin. longi.

The late Dr. A. Gray, in a note to Sir J. Hooker, said *Thurber's* No. 840 was identical with the above, though inadvertently referred to *Iresine diffusa*, H. B. K., by Dr. Torrey. Mr Pringle's specimens are admirable, and enable us to figure the genus for the first time. I find the stamens free down to the thickened fleshy lobed disc, from which they spring.—D. Oliver.

Fig. 1. Male flowers and subtending bracts. 2. Perianth laid open of ♂ flower. 3. Stamens and alternating rudiments. 4. Female flower and bract. 5. Perianth laid open. 9. Pistil. 7. Ovule and funicle 8. Embryo. *All enlarged.*

M.S. del. et lith.

Rosenia glandulosa, Thunb.

Plate 2228.

ROSENIA GLANDULOSA, *Thunb.*

Compositæ. Subtribe Relhanieæ.

R. glandulosa, *Thunb. Fl. Cap.* (*Ed. Schult.*), 692; frutex 3–5-pedalis, ramulis foliiferis rigidis divaricatis, foliis oppositis parvis in ramulis elongatis internodiis brevioribus lineari-oblongis v. oblanceolatis plus minus obtusis minute cano-tomentosis, costa subtus conspicue carinatis, deinde præcipue in margine et carina inferiore glandulosis, capitulis heterogamis multifloris campanulato-turbinatis terminalibus sessilibus, squamis pluriseriatis imbricatis marginibus apicem versus late scariosis interioribus oblongis inferne coriaceis, receptaculo paleis paucis elongatis setiformibus superne leviter dilatatis apice acuminatis floribus disci subæquilongis instructo, pappo 1-seriato paleis inæqualibus angustis integris v. laciniatis ovario multo breviore. *DC. Prodr.* vi. 280; *Harv. and Sond. Fl. Cap.* iii. 294.

Hab. Cape Colony, *Thunberg*; between Reed River and Stink-Fontein (No. 1,390), and between Kleine Quakka Fontein and Dwaal Rivier (No. 1,456), *Burchell*; Vaal River, *Dr. Shaw* (No. 110).

Folia $\frac{1}{4}$–$\frac{1}{2}$ poll. longa. *Involucra* $\frac{1}{2}$ poll. longa atque lata. *Antheræ* apice connectivo lanceolato, basi loculis in processubus rigidiusculis productæ.

The above description is taken wholly from Burchell's specimens, which were identified by Mr. N. E. Brown with Thunberg's type-specimens, kindly lent to him for comparison by Dr. Theodore Fries, from the Upsala Herbarium. There are, however, notwithstanding identity in all other particulars, singular differences in respect of the paleæ of the receptacle and pappus. In Thunberg's type the florets are sheathed by conduplicate scarious narrow squamæ about twice as long as the ovary. In Burchell's plant the receptacle bears but a few (5 to 7) elongate setiform squamæ, rather dilated above, and finely pointed at the apex, and about equal to the disk-florets in length. With regard to the pappus, some at least of the outer florets have, in addition to the short paleaceous pappus, a long seta, about as long as the ovary, which may originate either in the same series with the paleæ or inferior to it. Lessing, in his careful description, based upon

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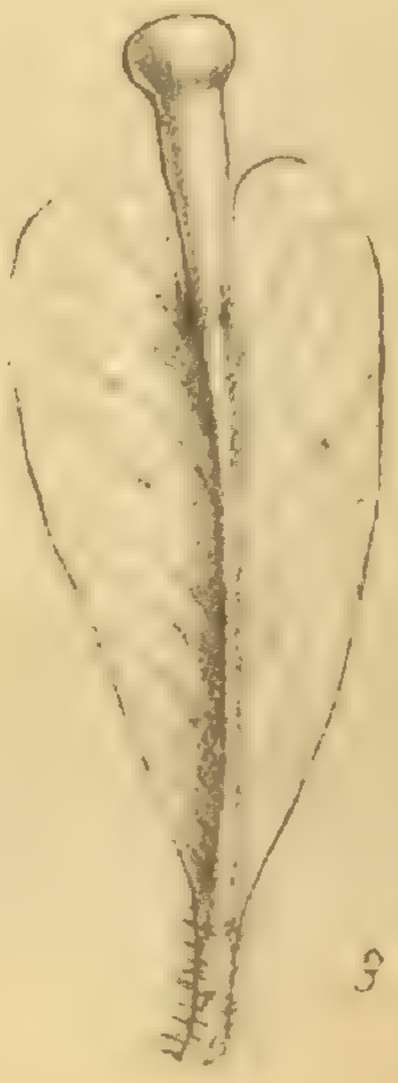

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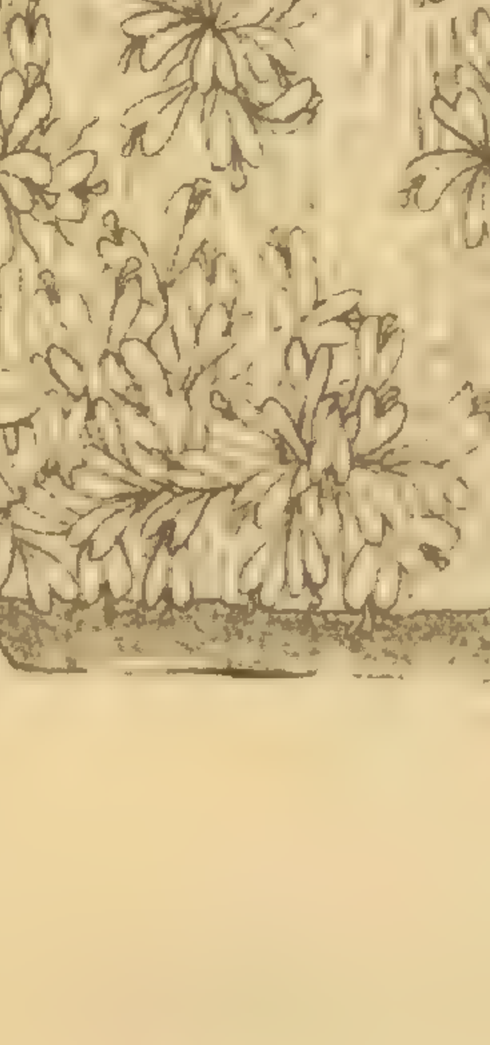

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M.S. del. et lith.

Trichomanes Sayeri, F.M. & B.

Plate 2229.

TRICHOMANES SAYERI, *F. Muell. and Baker.*

Filices. Suborder Hymenophylleæ.

T. Sayeri, *F. Muell. and Baker in Ann. Bot.* v. 195; rhizomate filiformi late repente primum parce hispidulo, frondibus parvis $\frac{1}{8}$–$\frac{1}{6}$ poll. longis brevissime petiolatis pro genere firmulis obovato-cuneatis integris apice profunde bilobis, costa e basi ad apicem distincta, venulis lateralibus erecto-patentibus subflabellatis, indusio in sinu terminale solitario subsessile omnino exserto, tubo subcylindrico, labio orbiculari patulo.

Hab. Queensland, Trinity Bay, *Sayer* (Com. *Sir F. von Mueller*).

Resembles the Malayan *T. henzaianum*, Hook., in habit, but the sori in our plant are always solitary from the sinus.—J. G. Baker.

Fig. 1. Portion of frond-bearing rhizome 2 and 3. Fronds detached, with solitary terminal sori. 4. Sorus, showing recurved margin of indusium. 5. Sporangia and exserted seta. *Enlarged.*

M.S. del, et lith

Matricaria zuurbergensis, Oliv.

Plate 2230.

MATRICARIA ZUURBERGENSIS, *Oliv.*

Compositæ. Tribe Anthemideæ.

M. zuurbergensis, *Oliv.* (*sp. nov.*); caulibus basi lignescentibus parce pilosulis glabratisve, foliis bipinnatifidis segmentis oblongo-lanceolatis acutis in rachi decurrentibus parce hirtis pilosulisve, capitulis radiatis terminalibus solitariis v. in cymis laxis oligo- (2–3-) cephalis dispositis pedunculatis, involucri squamis 2-seriatis marginibus scariosis sæpius purpurascentibus exterioribus ovatis, interioribus ellipticis v. obovatis, apice erosis, fl. radii albis ♀ c. 10–15. disci flavis breviter 4-dentatis dentibus obtusis tubo corollæ leviter 2-alato, receptaculo ovoideo-conico glabro cavo, acheniis (immaturis) 3–4-angulatis facie interiore 2–3-costatis obliquis apice calvis.

Hab. South Africa, Griqualand East, in woods of the Zuurberg, *Wood* (No. 3,046), *Tyson* (No. 2,768).

Caules 1–2 ped., foliiferi læves. *Folia* 2-3 poll. longa, petiolata v. sessilia, segmentis basilaribus stipuliformibus. *Capitula* $1\frac{1}{4}$–$1\frac{1}{2}$ poll. diam., disco $\frac{1}{3}$–$\frac{1}{2}$ poll. diam. *Antheræ* basi inappendiculatæ. *Stigmata* truncata.

A plant with leaves like those of Feverfew, *Chrysanthemum Parthenium*, but with the segments very acute; altogether of a very European aspect, and quite unlike any described *Matricaria* from South Africa.—D. Oliver.

Fig. 1. Vertical section through involucre and hollow receptacle. 2. Ray-floret. 3. Ovary and style of same. 4. Disk-floret. 5. Anthers. 6. Style-branches. 7. Achene. *All enlarged.*

M.S. del. et lith.

Asæmia axillaris, Harv.

Plate 2231.

ASÆMIA AXILLARIS, *Harv.*

Compositæ. Tribe Anthemideæ.

A. axillaris, *Harv. Flora Capensis*, iii. 187 (*sub Stilpnophyto*); fruticulus ramosissimus spinescens glaber, foliis oppositis linearibus carnosulis leviter complanatis v. subteretibus supra canaliculatis obtusiusculis integris v. nonnunquam utrinque medium versus 1–2-dentatis basi connatis capitulis parvis inter fasciculas foliorum laterales sessilibus c. 25-floris, involucri urceolati squamis imbricatis arcte appressis 3–5-seriatis, exterioribus et intermediis ovatis marginibus anguste scariosis sæpius obtusis interioribus oblongis apice interdum acutatis, receptaculo plano nudo, corolla (interdum inæqualiter) 5-dentata, dentibus oblongo- v. ovato-lanceolatis, achæniis calvis obliquis subtrigonis glabris v. basi paucisetulosis apice truncatis, 4–5-costatis costis distantibus. Stilpnophytum axillare, *Less. Syn. Comp.* 264; Tanacetum axillare, *Thunb. Fl. Cap.* (*Ed. Schultes*) 642.

Hab. Cape, *Thunberg*; near Graaff Reinet, *Bolus* (No. 2,008); near sea, Cow River, *Shaw* (No. 52).

Folia longiora $\frac{2}{3}$–1 poll. longa, $\frac{1}{2}$ lin. lata. *Capitula* florifera 4–6 lin. longa. *Antheræ* basi inappendiculatæ, apice connectivo oblongo-lanceolato productæ. *Styli* rami truncati.

This plant has the habit of *Nestlera humilis*, but is spinescent, and the florets, besides being heterogamous, are very different.—D. Oliver.

Fig. 1. Dentate leaf and connate base of pair. 2. Capitulum. 3. Floret. 4. Anthers. 5. Style-branches. 6. Achene. *All enlarged.*

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Plate 2232.

ATHANASIA TRIDENS, *Oliv.*

Compositæ. Tribe Anthemideæ.

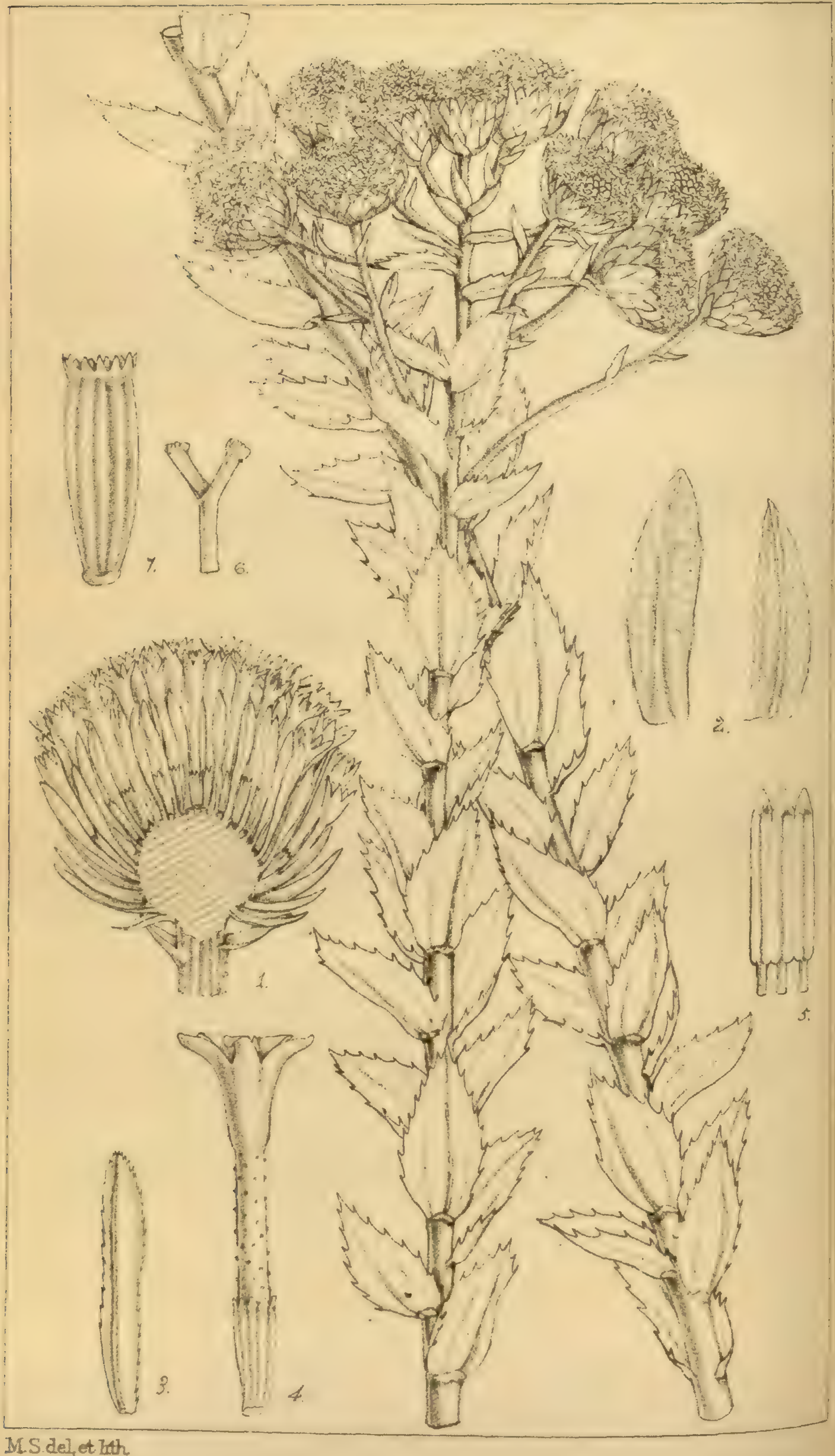
A. tridens, *Oliv.* (*sp. nov.*); albido-lanata, ramis floriferis erectis virgatis simplicibus fere ad inflorescentiam foliiferis, foliis superioribus minoribus indivisis lineari-lanceolatis inferioribus lineari-oblongis apicem versus cuneatim dilatatis trilobatis marginibus recurvis lobis lanceolatis apiculatis, capitulis multifloris hemisphæricis v. depresso-globosis in cymis terminalibus laxis oligo- (1–5-) cephalis dispositis, involucri squamis 3–5-seriatis plus minus appressis exterioribus minoribus lineari-lanceolatis tenuiter coriaceis dorso dense lanato-tomentosis, paleis receptaculi lineari-subulatis acuminatis ovario duplo longioribus superne leviter serrulatis, corollæ tubulosæ apicem versus leviter dilatatæ lobis recurvis flavidis deltoideo-lanceolatis, ovario valide 8–10-costato costis in dentibus pappi excurrentibus, dentibus minutis interdum bifidis.

Hab. Natal; hills near Blinkwater, 3,000–4,000 feet, *J. M. Wood* (No. 4,315).

Rami floriferi $1\frac{1}{2}$-pedales teretes albido-tomentosi. *Folia* lanato-tomentosa, inferiora 3-fida 1–$1\frac{1}{4}$ poll. longa. *Capitula* $\frac{2}{3}$–$\frac{3}{4}$ poll. diam. *Antheræ* apice connectivo membranaceo lanceolato obtuso terminatæ.

The florets are very numerous for an *Athanasia*, as large as those of the macrocephalous *Santolinæ*.—D. Oliver.

Fig. 1. Palea of receptacle. 2. Floret. 3. Anthers. 4. Style-branches. 5. Ovary. *All enlarged.*



M.S. del, et lith.

Athanasia leucoclada, Harv.

Plate 2233.

ATHANASIA LEUCOCLADA, *Harv.*

Compositæ. Tribe Anthemideæ.

A. leucoclada, *Harv. Flora Capensis*, iii. 191; ramis floriferis virgatis teretibus albido-tomentosis ad apicem foliiferis, foliis sessilibus amplexicaulibus ovato- v. oblongo-lanceolatis acutis serratis coriaceis glabris utrinque melanostictis, capitulis multifloris hemisphæricis pedunculatis in cymis 10–15-cephalis terminalibus dispositis, involucri glabri v. parce lanati squamis imbricatis pluriseriatis lineari-lanceolatis obtusiusculis acutisve marginibus superne scariosis obsolete erosis, paleis receptaculi floribus fere æquilongis linearibus subacutis coriaceis lateribus reflexis, ovario valide (8–) 10-costato costis in dentibus pappi minutis excurrentibus. Hymenolepis? leucoclada, *DC. Prodr.* vi. 86.

Hab. South Africa, Griqua East, in the Zuurbergen, 5,000 feet, and in the Malowe Mountains, near Clydesdale, 4,000 feet, *W. Tyson* (Nos. 1,185, 2,057).

Rami floriferi 1½–2-pedales. *Folia* internodia obtegentia, caulina inferiora ⅔–1–1½ poll. longa. *Capitula* ⅓–½ poll. diam.

The type of Drege, collected between the Omsamwubo and Omsamcaba, I have not seen; but Mr. Bolus's determination of Mr. Tyson's specimens, which correspond accurately * with De Candolle's description, is doubtless correct.

The plant was also unknown to Harvey, who first transferred the species to *Athanasia*. The achenes and their crowning teeth are similar to those of *A. tridens*, figured on the preceding plate. Mr. J. M. Wood sends from Natal a specimen so similar to Mr. Tyson's plant, except in the glabrescent stem and the slightly larger leaves and capitula, that I can only regard it as a form of the same species (*A. leucoclada* var. *glabrescens*).

Fig. 1. Vertical section of capitulum and solid receptacle. 2. Involucral bracts. 3. Palea of receptacle. 4. Floret. 5. Anthers. 6. Style-branches. 7. Ovary. *All enlarged.*

* The receptacle, however, is solid, not hollow as in *Hymenolepis cænorachis*, to which De Candolle doubtfully referred it.

M.S. del. et lith.

Juncus nematocaulon, Hk. f.

Plate 2234.

JUNCUS NEMATOCAULON, *Hook. f.*

Juncaceæ. Tribe Eujunceæ.

J. nematocaulon, *Hook. f.* (*sp. nov.*); caulibus cæspitosis foliisque capillaribus canaliculatis flexuosis, floribus solitariis v. in cymas 2–3-floras remotas dispositis, bracteis exterioribus brevibus v. inferioribus capillaribus, floribus sessilibus parvis, sepalis petalisque pallide viridibus lanceolatis acuminatis, antheris longe exsertis filamento capillaceo multo brevioribus, capsula longe exserta prismatica acuminata. *Fl. Brit. Ind.* vi. 400.

Hab. Assam; Naga Hills; on Jalepho, alt. 9,900 feet. *C. B. Clarke.*

Caules (annui?) 1–1½ poll. longi, superne unifoliati, interdum uniflori, flore terminali bractea capillari instructo. *Folia* pauca, vaginis brevibus membranaceis. *Flores* ⅙ poll. longi, bracteis æquilongis membranaceis involuti; sepala et petala consimilia, uninervia. *Capsula* perianthio duplo longior, ⅓ poll. longa, 1-locularis, membranacea, pallida. *Semina* utrinque in caudas elongatas producta, cauda una filiformi, altera æquilonga inflata.

A very remarkable species, allied to *J. khasiensis*, Buchen., in its slender habit, but far more slender, and differing in the few flowers, acute sepals, capsules much longer than the perianth, and seeds with one of the tails inflated. The seeds described are from a drawing by Mr. Clarke; I fail to find any in this specimen.—J. D. H.

Fig. 1. Inflorescence detached. 2. Outer aristate bract. 3. Flower. 4. Outer carinate; and 5, inner perianth-segment. 6. Stamen. *All enlarged.*

M.S. del. et lith.

Juncus sikkimensis, Hk.f.

Plate 2235.

JUNCUS SIKKIMENSIS, *Hook. f.*

Juncaceæ. Tribe Eujunceæ.

J. sikkimensis, *Hook. fil.* (*sp. nov.*); rhizomate repente, vaginis ad basin caulis rigidis, foliis solitariis paucisve caulem æquantibus teretibus v. subcompressis, cyma e capitulis 2 lateralibus sessilibus 4–6-floris, bracteis inferioribus foliaceis cymam superantibus, sepalis glumaceis brunneis lanceolatis acuminatis, petalis lineari-oblongis obtusis, antheris inclusis filamento multo longioribus, capsula inclusa, seminibus utrinque in caudam brevem productis. *Fl. Brit. Ind.* vi. 399.

Hab. Sikkim Himalaya; Lachen Valley, alt. 12,000–14,000 feet, *J. D. H.*

Rhizoma crassitie pennæ corvinæ v. passerinæ; caules spithamei, canaliculati foliaque solidi; vaginæ $\frac{1}{2}$–1-pollicares. *Flores* $\frac{1}{3}$–$\frac{1}{2}$ poll. longi, sessiles, bracteis æquilongis membranaceis involuti; sepala tenuiter acuminata, nitida; petala apice membranacea; antheræ lineares, demum tortæ; ovarium parvum, stylo gracili elongato exserto, stigmatibus elongatis. *Capsula* sepalis vix longior, obovoidea, acuta, breviter rostrata, castanea, nitida, 3-septata. *Semina* $1\frac{1}{2}$ poll. longa, caudis albis.

Var. *monocephala*; parvula, caule gracillimo, cyma monocephala, bracteis inferioribus filiformibus $\frac{1}{2}$–$\frac{3}{4}$ poll. longis, sepalis $\frac{1}{3}$ poll. longis. *Fl. Brit. Ind.* l.c., Sikkim, alt. 12,000 feet.

Allied to *J. himalensis*, Kl. and Garcke (which is very near the European *J. castaneus*), differing in the solid stems and leaves, sessile flowers, finely acuminate sepals, anthers longer than the filaments, much shorter capsule, and far smaller seeds with short stout tails. The larger forms, from 12,000 feet, a span high and more, have fewer leaves, stouter stems, and dark brown basal sheaths, and spathaceous outer bracts; in more slender forms, from 13,000–15,000 feet, the basal sheaths are much more membranous, the lower bracts less spathaceous and flowers fewer. The var. *monocephala* looks like a different species, owing to the smaller size of all its parts, but I find no difference in the structure of its flowers.—J. D. H.

Fig. 1. Flower. 2. Same laid open. 3. Apex of perianth-segment. 4. Flower of var. *monocephala*. 5. Pistil of same. *All enlarged.*

M S del et lith

Plate 2236.

IXORA SIPHONANTHA, *Oliv.*

Rubiaceæ. Tribe Ixoreæ.

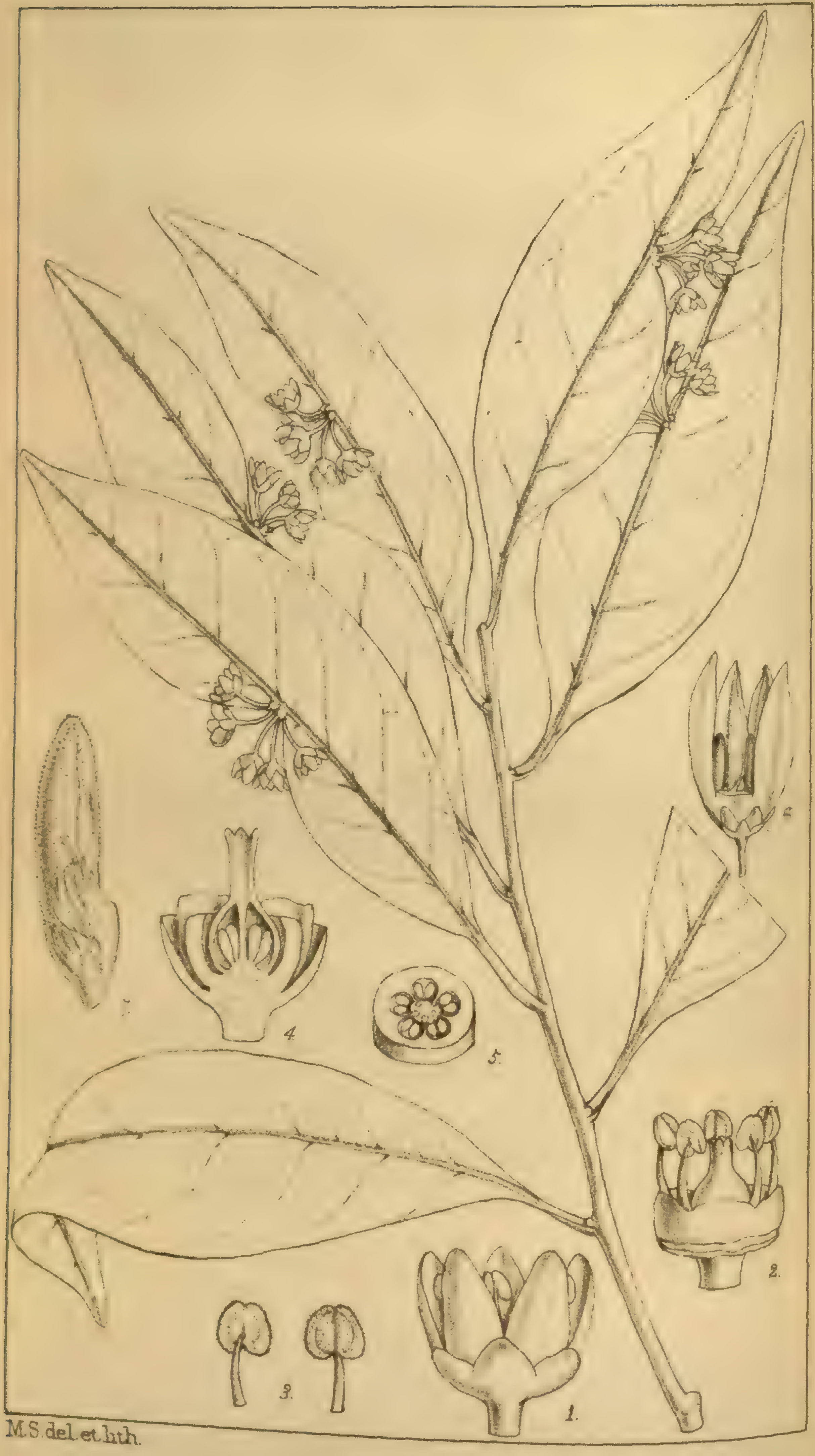
I. siphonantha, *Oliv.* (*sp. nov.*); glaberrima, foliis petiolatis elongato-ovalibus acutis coriaceis, stipulis connatis cuspidatis, panicula terminali dependente pedunculata trichotoma, bracteis lanceolato-subulatis acutis, pedicellis ultimis brevissimis vel floribus sessilibus, calycis tubo campanulato limbo 4-partito breviore, segmentis limbi erectis lanceolatis acutis rigidiusculis, corollæ tubo longissimo gracili, limbi lobis lineari-lanceolatis acutis, antheris fauce insertis linearibus apice apiculatis lobis corollæ c. 4-plo brevioribus, filamentis brevissimis, stigmatis lobis linearibus divergentibus.

Hab. Northern Madagascar, *Baron* (No. 6,611.)

Folia (in ram. florif.) 7–10 poll. longa, $1\frac{1}{2}$–$2\frac{1}{2}$ poll. lata. *Panicula* cum pedunculo c. $1\frac{1}{2}$–2 pedalis. *Flores* flavi, 8–10 poll. longi. *Calyx* lobis 2–$2\frac{1}{2}$ lin. longis. *Ovula* solitaria, peltatim inserta.

A noble addition to this large genus. I do not know any species of *Ixora* with flowers so large.—D. Oliver.

Fig. 1. Calyx and style-base. 2. Anther, front and back. 3. Longitudinal section of ovary. *All enlarged.*



Polycardia Baroniana, Oliv.

Plate 2237.

POLYCARDIA BARONIANA, *Oliv.*

Celastrineæ. Tribe Celastreæ.

P. baroniana, *Oliv.* (*sp. nov.*); glaberrima, ramulis gracilibus, foliis petiolatis coriaceis ovali-oblongis obtusiusculis sæpe breviter acuminatis basi in petiolum angustatis venis primariis obscuris v. subtus vix prominulis, uno latere prope v. supra medium ad costam excavatis et hic flores pedicellatos 3–8-fasciculatos gerentibus, calycis 5-fidi lobis ovato-deltoideis, petalis calyce 2–3-plo longioribus ovatis v. ovato-lanceolatis obtusis persistentibus, ovarii loculis 2–3-ovulatis, capsula elliptica loculicide 5-valve, seminibus angustis minute pubescentibus basi arillo oblique laciniato instructis.

Hab. North Madagascar, *Baron* (No. 6,243).

Folia $2\frac{1}{4}$–4 poll. longa, $\frac{1}{2}$–$1\frac{1}{6}$ poll. lata; petiolus $\frac{1}{4}$–$\frac{1}{2}$ poll. longus. *Pedicelli* $\frac{1}{4}$ poll. longi. *Stamina* in sinubus disci inserta, petalis breviora; filamenta subulata; antheræ ovato-cordatæ, obtusæ, scabrido-punctatæ, antice sulcatæ, dorso convexæ. *Ovarium* superum, ovoideum, disco circumdatum; stylus lævis crassus; stigmate 3–5-lobulato. *Capsula* valvis tenuiter crustaceis ovalibus utrinque acutatis, 10–12 lin. longis.

This plant agrees with *P. Hildebrandtii*, Baill. (*P. lateralis*, Hoffm.), in the inflorescence originating from the base of a lateral sinus of the leaf, but differs in the much longer, more oblong, more obtuse pale leaves, and the floral sinus, instead of being near the base of the leaf, is at or above the middle: in this respect our plant is nearer Hildebrandt's No. 3,460, if not identical with it.—D. Oliver.

Fig. 1. Flower. 2. Flower, the sepals and petals removed. 3. Stamen, back and front view. 4. Vertical section of ovary. 5. Transverse section of same. 6. Dehiscent capsule. 7. Seed, with arillus. *Except fig.* 6, *enlarged.*

M.S. del. et lith.

Nicodemia Baroniana, Oliv.

Plate 2238.

NICODEMIA BARONIANA, *Oliv.*

Loganiaceæ. Subtribe Buddleieæ.

N. baroniana, *Oliv.* (*sp. nov.*); ramulis hornotinis cano-tomentellis, foliis petiolatis lanceolatis v. ovato-lanceolatis acuminatis apice acutiusculis integris vel utrinque 1-3-repando-dentatis supra parce stellato-tomentellis deinde glabratis subtus cum petiolo cano-tomentosis, paniculis v. racemis compositis multifloris terminalibus, pedunculis pedicellisque floriferis dense tomentosis, bracteis anguste linearibus, calycis tomentosi campanulati 4-fidi lobis ovato-lanceolatis acutis, corollæ tubo calyce 2–3-plo longiore parce tomentello, limbo 4-fido, lobis ovato-rotundatis, antheris paullo supra medium tubi insertis subsessilibus oblongis, ovario 4-loculari globoso stylo æquilongo, stigmate leviter dilatato, fructibus globosis lævibus basi calyce persistente stipatis, seminibus ∞ ellipsoideis longitudinaliter sulcatis et transverse rugulosis.

Hab. Northern Madagascar, *Baron* (No. 6,277, 6,507).

Ramuli graciles crassitie pennæ corvinæ. *Folia* $2\frac{1}{2}$–4 poll. longa; $\frac{3}{4}$–$1\frac{1}{2}$ poll. lata; petiolus $\frac{1}{4}$–$\frac{2}{3}$ poll. longus. *Flores* $\frac{3}{4}$ poll. longi; pedunculi pedicellique fructiferi divaricati sæpe glabrescentes. *Fructus* $\frac{1}{4}$ poll. diam.

The stigma falls considerably short of the stamens in the flower examined. It is not improbable that the flowers may prove dimorphic, and that a long-styled form occurs. I leave the genus in *Nicodemia* for the present, notwithstanding, as first observed by Miss Smith, the ovary and fruit are quadrilocular, with very thin dissepiments.—D. Oliver.

Fig. 1. Calyx and subtending bract. 2. Corolla, laid open, and pistil 3. Anther, back and front view. 4. Transverse section of ovary. 5. Seed. 6. Stellate hair of indumentum. *All enlarged.*

M.S.del et lith.

Vernonia cephalophora, Oliv.

Plate 2239.

VERNONIA CEPHALOPHORA, *Oliv.*

Compositæ. Tribe Vernoniaceæ.

V. cephalophora, *Oliv.* (*sp. nov.*); ramis floriferis teretibus validis arcte tomentosis, foliis petiolatis coriaceis oblongo- v. oblanceolato-ellipticis obtusis v. acutiusculis basi in petiolum angustatis integris v. obscure sinuatis supra scaberulis sub lente glandulosis subtus fulvo-tomentosis, capitulis multifloris turbinato-campanulatis dense molliter albido-tomentosis breviter pedunculatis v. sessilibus in inflorescentia terminali capitata congestis, involucri squamis interioribus lineari-oblongis acutiusculis dorso apice albido-lanatis floribus brevioribus, exterioribus brevioribus lanceolatis v. ovato-lanceolatis dorso apicem versus dense piloso-lanatis, receptaculo areolato, corollæ tubo gracili elongato ore dilatato 5-fido dentibus subulato-lanceolatis, antheris apice connectivo subulato productis basi sagittatis inappendiculatis lobis obtusiuscule productis plus minus connatis, acheniis angulatis c. 10-sulcatis pilis subappressis albidis setuloso-sericeis, pappi setis exterioribus brevibus interioribus achenio longioribus argyreis barbellatis subtarde deciduis.

Hab. Northern Madagascar, *Baron* (No. 6,264).

Arbor verosimiliter, ramulis floriferis crassitie digiti minoris. *Folia* 5–7 poll. longa, $1\frac{1}{2}$–3 poll. lata; petiolus $\frac{3}{4}$–$1\frac{1}{4}$ poll. longus. *Inflorescentia* hemisphærica v. subglobosa terminalis, $3\frac{1}{2}$–4 poll. diam. *Capitula* 1–$1\frac{1}{4}$ poll. diam.

Allied to *V. mecistophylla*, Baker, in *Journ. Linn. Soc.* xxv. 322, but the capitula are very different in their densely pilose involucres.—D. Oliver.

Fig. 1. Floret. 2. Setæ of pappus. 3. Anthers. 4. Style-branches. *All enlarged.*

M. S. del et lith.

Vitex congesta, Oliv.

Plate 2240.

VITEX CONGESTA, *Oliv.*

Verbenaceæ. Tribe Viticeæ.

V. congesta, *Oliv.* (*sp. nov.*); ramulis ultimis setoso-pilosis ferrugineis, foliis 3–5-foliolatis, petiolis setosis, foliolis petiolulatis (in fol. 5-foliolatis, interdum etiam in 3-foliolatis, foliolis exterioribus minoribus breviter v. brevissime petiolulatis) oblanceolato-oblongis oblongisve obtusis v. obtuse acutatis, supra sparsissime et subtus in costa setosa, venis primariis utrinque 8–11 (–14) subtus prominentibus facie inferiore scaberula, floribus incurvis ferrugineo-setosis in cymis sessilibus axillaribus dense congestis, pedicellis brevissimis, calycis parvi 5-fidi setoso-hispidi lobis subulatis tubo æquantibus, corollæ calyce 6-8-plo longioris tubo incurvo cylindraceo ore leviter dilatato, limbo bilabiato, labio superiore breviter bifido lobis ovato-rotundatis, labio inferiore 3-fido lobis ovatis subæqualibus, filamentis inferne parce setulosis breviter exsertis, antheris hippocrepiformi-cordiformibus sinu profundo apice rotundatis, stylo glabro, stigmate bifido lobis subulatis divergentibus.

Hab. Northern Madagascar, *Baron* (No. 6,676).

Folia petiolo $1\frac{1}{2}$–3 poll. longo, foliolo centrali $3\frac{1}{2}$–$6\frac{1}{2}$ poll. longo, $1\frac{1}{6}$–$1\frac{3}{4}$ poll. lato, petiolulo $\frac{1}{4}$–1 poll. longo. *Corolla* $1\frac{1}{4}$ poll. longa extus setis ferrugineis patentibus obsita.

In floral structure perhaps most nearly allied to *V. trichantha*, Baker, a 1-foliolate species of Madagascar.—D. Oliver.

Fig. 1. Calyx laid open. 2. Corolla laid open. 3. Stigma. *All enlarged.*

M S. del. et lith.

Clerodendron Baronianum, Oliv.

Plate 2241.

CLERODENDRON BARONIANUM, *Oliv.*

Verbenaceæ. Tribe Viticeæ.

C. baronianum, *Oliv.* (*sp. nov.*); ramulis glabris cortice albido obductis, foliis ellipticis breviter obtuse apiculatis coriaceis pallidis subnitentibus petiolatis, venis primariis utrinque 5–6 subtus prominulis, floribus in cymis brevibus 3-floris breviter pedunculatis v. sessilibus axillaribus v. umbellatim congestis quasi-terminalibus, bracteis minutis lineari-subulatis, pedicellis $\frac{1}{2}$-pollicaribus calyce campanulato-tubuloso brevioribus, calycis coriacei rigidi dentibus 5 deltoideo-lanceolatis acutis, corollæ tubo elongato calyce 4–5-plo longiore gracili, limbo profunde 5-fido lobis subæqualibus ellipticis v. oblongo-ellipticis obtusis, filamentis gracilibus longe exsertis, antheris ellipticis, stylo elongato, stigmate bifido lobis anguste subulatis.

Hab. Northern Madagascar, *Baron* (No. 6,616).

Folia $1\frac{3}{4}$–$2\frac{1}{2}$ poll. longa; petiolus c. $\frac{1}{3}$ poll. longus. *Calyx* 1–$1\frac{1}{4}$ poll. longus. *Corolla* c. 4 poll. longa.

A fine species allied to *C. macrocalycinum*, Baker, and somewhat resembling *C. petunioides*, Baker, in foliage and calyx, but with very different corolla. We were previously indebted to Mr. Baron for several peculiar endemic species of this genus.—D. Oliver.

Fig. 1. Stamen, back and front view. 2. Base of calyx-tube and ovary. 3. Stigma. 4. Transverse section of ovary. *All enlarged.*

M.S. del, et lith.

Clerodendron eucalycinum, Oliv.

Plate 2242.

CLERODENDRON EUCALYCINUM, *Oliv.*

Verbenaceæ. Tribe Viticeæ.

C. eucalycinum, *Oliv.* (*sp. nov.*); glabrum, foliis obovato-oblongis obovatisve breviter obtuse apiculatis tenuiter coriaceis petiolatis venis primariis utrinque 6–8 subtus prominulis, floribus in cymis paucifloris breviter pedunculatis v. subsessilibus ad apices ramorum laxe fasciculatis, bracteis oblanceolato-linearibus, pedicellis validis calyce sæpius brevioribus, calycis tubuloso-campanulati dentibus ovato-rotundatis obtusis, corollæ tubo calyce subduplo longiore ore in limbo dilatato oblique dorsaliter fisso lobis 5 ellipticis obtusis tubo brevioribus, filamentis exsertis, antheris oblongo-ellipticis, styli lobis subulatis.

Hab. Northern Madagascar, *Baron* (No. 6,263).

Folia basi in petiolum angustata $2\frac{1}{2}$–$3\frac{1}{2}$ poll. longa, $1\frac{1}{2}$–2 poll. lata; petiolus $\frac{1}{1}$–$\frac{1}{2}$ poll. longus. *Flores* 3–4 poll. longi. *Calyx* $1\frac{1}{2}$ poll. longus, $\frac{1}{2}$ poll. latus.

Another remarkable *Clerodendron*, allied to *C. macrocalycinum* and *C. rubellum* of Mr. Baker, but with a calyx twice, or more than twice, as large as in either. *C. magnoliæfolium*, Baker, an endemic species, with an ample calyx, has the corolla-tube included, and *C. petunioides*, Baker, also with a large calyx, differs in its leaves and corolla-tube scarcely protruded.—D. Oliver.

Fig. 1. Stamen, back and front view. 2. Stigma. 3. Base of calyx-tube and ovary. *All enlarged.*

M.S. del, et lith

Macphersonia macrophylla, Oliv.

Plate 2243.

MACPHERSONIA MACROPHYLLA, *Oliv.*

Sapindaceæ. Suborder Sapindeæ.

M. macrophylla, *Oliv.* (*sp. nov.*); folia bipinnata, pinnis 3–4-jugis juga inferiore basali ad foliolas 1–3 reducta subsessili, pinnis superioribus sæpius 7–9-foliolatis foliolis brevissime petiolulatis oblique ovato-ellipticis acute acuminatis integris glabris v. costa subtus minute puberulis, inflorescentia (fl. ♂) axillari racemosa elongata folio sæpius longiore rachi sparse setulosa, bracteis parvis linearibus setoso-fimbriatis, pedicellis fasciculatis glabris corolla purpurea longioribus, sepalis rotundatis concavis ciliolatis exterioribus paulo minoribus, petalis 5 calyci fere æquilongis cuneatis subunguiculatis sæpius bifidis (v. inæqualiter 2–3-lobatis) lobis lateralibus linearibus lanceolatisve integris v. dentatis longe pilosis, disco carnoso profunde lobato glabro, staminibus 8 disco interioribus liberis exsertis, filamentis filiformi-subulatis glabris, antheris oblongo-ellipticis utrinque obtusis emarginatis obsolete punctato-scaberulis, rudimento ovarii minutissimo.

Hab. Northern Madagascar, *Baron* (No. 6,488).

Folia (in ramis floriferis) rachi 3–4 poll. longa, pinnis 4–7 poll. longis; foliola superiora majora $2\frac{3}{4}$–$3\frac{1}{2}$ poll. longa. *Racemi* 10–20 poll. longi, c. $\frac{1}{2}$ poll. lati. *Flores* $1\frac{1}{2}$–2 lin. diam.

The other species known to me of this genus from Madagascar and Eastern Africa have numerous small obtuse leaflets half an inch in length or smaller. Female flowers and fruit are desiderata.—D. Oliver.

Fig. 1. Bract. 2. Staminate flower 3. Petals. 4. Disk. *All enlarged.*

Pleurospermum Franchetianum Hemsl.

Plate 2244.

PLEUROSPERMUM FRANCHETIANUM, *Hemsl.*

Umbelliferæ. Tribe Seselineæ.

P. franchetianum, *Hemsl. in Journ. Linn. Soc.* xxix. *ined.*; P. Davidii affine sed differt foliorum segmentis angustioribus, bracteis bracteolisque minus dissectis insigniter albo-marginatis.

Hab. In a collection from West Szechuen and the Tibetan frontier, chiefly near Tachienlu, 9,000–15,500 feet, *Pratt* (No. 552).

Perenne v. bienne, erectum, robustum, 1½–2 ped. altum, undique glaberrimum, caulibus simplicibus, cavis, circiter ½ poll. diametro. *Folia* radicalia non visa, caulina tenuia, fere membranacea, longe petiolata, subtriternatim pinnatisecta, segmentis ultimis linearibus subacutis, maxima, 6 poll. longa; petiolo angusto deorsum leviter dilatato; folia superiora sessilia, bracteiformia, paucilobata, umbellas laterales subtendentia. *Umbellæ* compositæ, pluri- vel multi-radiatæ, unica sessilis terminalis, floribus omnibus femineis, cum pluribus (circiter 15) lateralibus confertis longe pedunculatis floribus omnibus (v. fere omnibus) masculinis; bracteæ sæpius breviter trifidæ, umbellæ terminalis majores sed quam radii fere dimidio breviores, bracteæ umbellarum lateralium radios graciles æquantes v. superantes; bracteolæ integræ, spathulatæ, pedicellos brevissimos superantes, 3–5 lineas longæ. *Fructus* (maturus ignotus) glaber, stylis longis divergentibus coronatus.

This is a very distinct and showy species, and the evident separation of the sexes is interesting. The terminal umbel is sessile and female, and it is surrounded and overtopped by numerous smaller compound, lateral umbels bearing only male flowers (or with an occasional female). Whether this condition be constant is uncertain, but, from a cursory examination of other species of the genus, the flowers are commonly functionally unisexual.—W. B. Hemsley.

Fig. 1. Staminate flower. 2. Pistillate flower. 3. Petal. 4. Immature fruit. *All enlarged.*

Correa Bauerlenii F.v. Muell.

Plate 2245.

CORREA BAUERLENII, *F. v. Muell.*

Rutaceæ. Tribe Boronieæ.

C. Bauerlenii, *F. v. Mueller in Proc. Linn. Soc. N. S. Wales*, ix. 960; ramulis gracilibus teretibus, novellis porphyreo-brunneis pilis stellatis plus minus obsitis, foliis oppositis petiolatis tenuiter coriaceis oblongo- v. ovali-lanceolatis acutiusculis planis subtus pilis ferrugineis parce notatis, floribus flavido-virescentibus pedunculatis axillaribus v. terminalibus, calyce mox glabrato ore breviter 4-dentato sæpius irregulariter fisso v. quasi-bilabiato prope basin tubi horizontaliter alato-dilatato, corolla gamopetala extus pilis stellatis pallidis tomentella tubulosa cylindrica calyce 3–4-plo longiore, breviter 4-lobata, lobis ovato-deltoideis acutis vix patulis, staminibus exsertis, filamentis glabris anguste lineari-subulatis, antheris lineari-oblongis versatilibus, ovario hirsuto 4-partito, coccis glabrescentibus 'valvis endocarpii sursum dilatatis, seminibus nitentibus brunneis, cotyledonibus radiculæ fere æquilongis.'

Hab. New South Wales, 'on stony banks of rivulets of the Upper Clyde,' *W. Bauerlen.*

Folia $1\frac{1}{2}$–$2\frac{1}{2}$ poll. longa, $\frac{1}{2}$–$\frac{3}{4}$ poll. lata; petiolus 1–3 lin. longus. *Flores* 1 poll. longi. *Calyx* ala basali coriacea 1–2 lin. lata demum decurva.

Sir F. von Mueller, to whom we are indebted for excellent flowering specimens, wild ones from the restricted original locality, sent to Kew in 1884, and recently cultivated specimens from Port Phillip, suggests that this species is deserving of a figure in 'Icones Plantarum' as 'one of the rarest plants of Australia' and 'of singular structural interest.' The latter remark applies to the horizontal wing-like expansion of the base of the calyx, unlike anything in allied Rutaceæ. Sir F. v. Mueller remarks that 'several of the most local plants in Australia are contained in the order *Rutaceæ*.' The finely narrowed apex of the filaments is continued into, and concealed by, an extinguisher-like excavation of the connective, as in *Correa speciosa*.—D. Oliver.

Fig. 1. Calyx, showing basal annular dilatation. 2. Anther, back and front view. 3. Calyx, vertical section, showing carpels. *All enlarged.*

M.S. del, et lith.

Didymocarpus pectinata, C.B.C.

Plate 2246.

DIDYMOCARPUS PECTINATA, *C. B. Clarke.*

Gesneraceæ. Tribe Cyrtandreæ.

D. (§ **Heterobœa**) **pectinata,** *C. B. Clarke in Herb. Kew.*; frutex, caule lignescente parce dichotomo glabro, foliis pluribus apices ramulorum versus confertis alternis v. nonnunquam oppositis sessilibus v. brevissime petiolatis anguste ovali-oblongis acuminatis pectinatis glabris, segmentis lanceolatis e basi oblique deltoidea leviter acuminatis obtusiusculis, floribus axillaribus pedunculatis solitariis, pedunculo folio breviore gracili adscendente supra medium bibracteolato, bracteolis approximatis anguste subulatis, calycis obliqui 5-partiti segmentis lanceolatis obtusiusculis corolla 5–6-plo brevioribus, corollæ tomentellæ tubo cylindrico leviter inflato, lobo exteriore antico obovato-rotundato, staminibus antheriferis 2, filamentis apice conniventibus, antheris oblongis agglutinatis, staminodiis ut videtur 0, disco tubuloso ovarii basin cingente, capsula anguste lineari horizontaliter deflexa compressiuscula valvis dorso leviter costatis.

Hab. Malayan Peninsula, Perak, dense jungle on limestone rocks, alt. 400–800 feet, *Dr. King's Collector* (No. 10,711).

Folia 3–4 poll. longa, $\frac{1}{2}$–$\frac{3}{4}$ poll. lata; segmenta basi 1–1$\frac{1}{2}$ lin. lata. *Pedunculi* pubescentes. *Bracteolæ* $\frac{1}{4}$ poll. longæ. *Flores* $\frac{1}{3}$ poll. longi; calyx indigoticus; corolla alba. *Capsula* $\frac{3}{4}$ poll. longa.

In *facies* perhaps the most singular species of the genus. Below the leafy extremities the branches are naked with a finely-fissured cortex. Each segment of the pectinate leaves is traversed by a longitudinal nerve a little within the upper margin; the ultimate venation is sparse and very obscure, only apparent by transmitted light. I have not had sufficient material for complete examination of the lobes of the corolla-limb.—D. Oliver.

Fig. 1. Segments of pinnatipart leaf. 2. Calyx and pistil, with tubular disk. 3. Stamens. *All enlarged.*

A. Hoya Guppyi, Oliv.
B. —— affinis Hemsl.

Plate 2247.

A.—HOYA GUPPYI, *Oliv.*

B.—HOYA AFFINIS, *Hemsl.*

Asclepiadaceæ. Tribe Marsdenieæ.

A.—**H. Guppyi**, *Oliv. in Guppy*, '*Solomon Islands*,' p. 298; ramulis ultimis parce hirtellis deinde glabratis foliis petiolatis coriaceis late ellipticis breviter acuminatis cuspidatisve basi late rotundatis subcordatisve supra glabris v. fere glabris subtus plus minus hirtellis 1-costatis nervis lateralibus primariis subtus utrinque 7–9, umbellis pedunculatis pedunculis pedicellisque glabris, calycis parvi corollæ tubo 2–4-plo brevioris carnosuli 5-partiti lobis ovatis obtusis ciliolatis, corollæ rotatæ lobis patentibus ovatis v. late ovato-lanceolatis acutatis intus hirtellis extus glabris sinubus reflexis, coronæ foliolis cartilagineo-incrassatis disco ovato-lanceolatis (sicco) concavis obtusis basi angustatis dorso profunde excavatis marginibus lateralibus utrinque cariuatis, folliculis subteretibus longitudinaliter striatis parce hirtellis.

Hab. Solomon Islands, Fauro Island, Bougainville Straits, *H. B. Guppy* (No. 188).

Folia $3\frac{1}{5}$–$4\frac{1}{5}$ poll. longa, $2\frac{1}{4}$–$2\frac{1}{2}$ poll. lata; petiolus hirtellus $\frac{1}{2}$–1 poll. longus. *Umbella* 10–14-flora; pedunculus 2 poll. longus; pedicelli 1–$1\frac{1}{2}$ poll. longi. *Corolla* 1–$1\frac{1}{2}$ poll. diam. rubro-purpurea. *Follicula* 8–9 poll. longa.

A. Fig. 1. Calyx. 2. Corona. 3. Pollinia. *All enlarged.*

B.—**H. affinis**, *Hemsl. in Kew Bull.* 1892, 126, præcedenti affinis, differt: foliis oblongo-ellipticis costa subtus præcipue basin versus hirtellis nervis primariis subtus haud prominentibus utrinque 5–6, pedicellis calycibusque hirtellis, corolla dorso setuloso-hirta, facie papilloso-puberula, coronæ foliolis latioribus.

Hab. Solomon Islands; Florida Island, *Comins* (No. 57).

Folia $3\frac{1}{2}$–4 poll. longa, $1\frac{3}{4}$–2 poll. lata; petiolus 1–$1\frac{1}{4}$ poll. longus crassus. *Pedunculus* parce hirtellus $1\frac{1}{2}$ poll. longus; pedicelli hirtelli $1\frac{1}{2}$ poll. longi. *Flores* $1\frac{1}{2}$ poll. diam.—D. Oliver.

B. Fig. Inflorescence only.

Hoya Cominsii, Hemsl.

Plate 2248.

HOYA COMINSII, *Hemsl.*

Asclepiadaceæ. Tribe Marsdenieæ.

H. Cominsii, *Hemsl. in Ann. Bot.* v. 505; glabra, foliis ellipticoovatis basi late rotundatis subcordatis breviter abrupte apiculatis obtusiusculis 5–7-nerviis, petiolis crassiusculis lamina 6-plo brevioribus, pedunculis multifloris persistentibus cicatricibus crebris florum delapsorum notatis, pedicellis gracilibus, floribus cremeis rotatis, calycis parvi tubo corollæ dimidio brevioris 5-partiti segmentis ovatis obtusiusculis, corollæ lobis ovatis v. deltoideo-ovatis supra puberulis subtus glabris, coronæ segmentis disco ellipticis corollæ tubo longioribus lobis ejusdem brevioribus marginibus arcte reflexis polliniis lineari-clavatis.

Hab. Solomon Islands, San Christoval, *Comins* (No. 163).

Folia 4–4½ poll. longa, 2½ poll. lata; petiolus ½–¾ poll. longus. *Pedunculus* rachi florifera ad 1–1½ poll. longa; pedicelli ¾ poll. longi. *Flores* 5–6 lin. lati.

The nearest ally of this species would appear to be *H. samoensis*, Seem., which has less ovate leaves, not so broadly rounded or subcordate at base as in our plant. In this respect it is nearer a plant collected in New Caledonia by Deplanche (No. 4).—D. Oliver.

Fig. 1. Calyx. 2. Corona, segments of corolla removed. 3. Pollinia. *All enlarged.*

Sida quinquenervia, Duchass.

Plate 2249.

SIDA QUINQUENERVIA, *Duchass.*

Malvaceæ. Subtribe Sideæ.

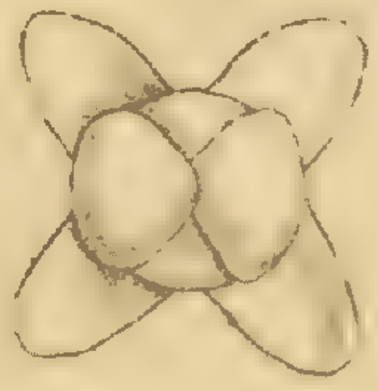
S. quinquenervia, *Duchassaing in Ann. Sc. Nat.*, sér. iv., xvii. 176 (*Planch. et Triana, Prodr. Fl. Novogranat.*); frutescens 7–9 ped. alta, ramis teretibus ferrugineo-setosis, foliis lanceolato- v. ovato-oblongis acuminatis serratis basi rotundatis utrinque stellato-hispidis, petiolo setoso lamina 6–10-plo breviore, stipulis subulatis sæpe 2–3-fidis, floribus subsessilibus in spicis axillaribus brevibus congestis v. in axillis superioribus longioribus sæpe interruptis dispositis, supremis in spicam simplicem v. parce ramosam confluentibus, bracteis bracteolisque 3–5–7 calyces superantibus anguste lineari-subulatis basi sæpius breviter coalitis, calycis dense setoso-hirsuti 5-fidi segmentis ovatis acutis, petalis setoso-unguiculatis cuneatis oblique et obtuse bilobatis, staminum tubo basi ovarium arcte cingente, ovario depresso globoso tomentello, stylis inferne coalitis c. 8 gracilibus. stigmatibus capitellatis, ovulo solitario pendulo, carpidiis maturis papyraceis dorso rotundatis tumidis inappendiculatis primum apice 'demum secus dorsum usque ad basin' dehiscentibus. Sida guianensis, *K. Schum. in Mart. Fl. Bras.* xii., *pars* iii. 305; Sidastrum quinquenervium, *E. G. Baker in Journ. Bot.*, 1892, 137.

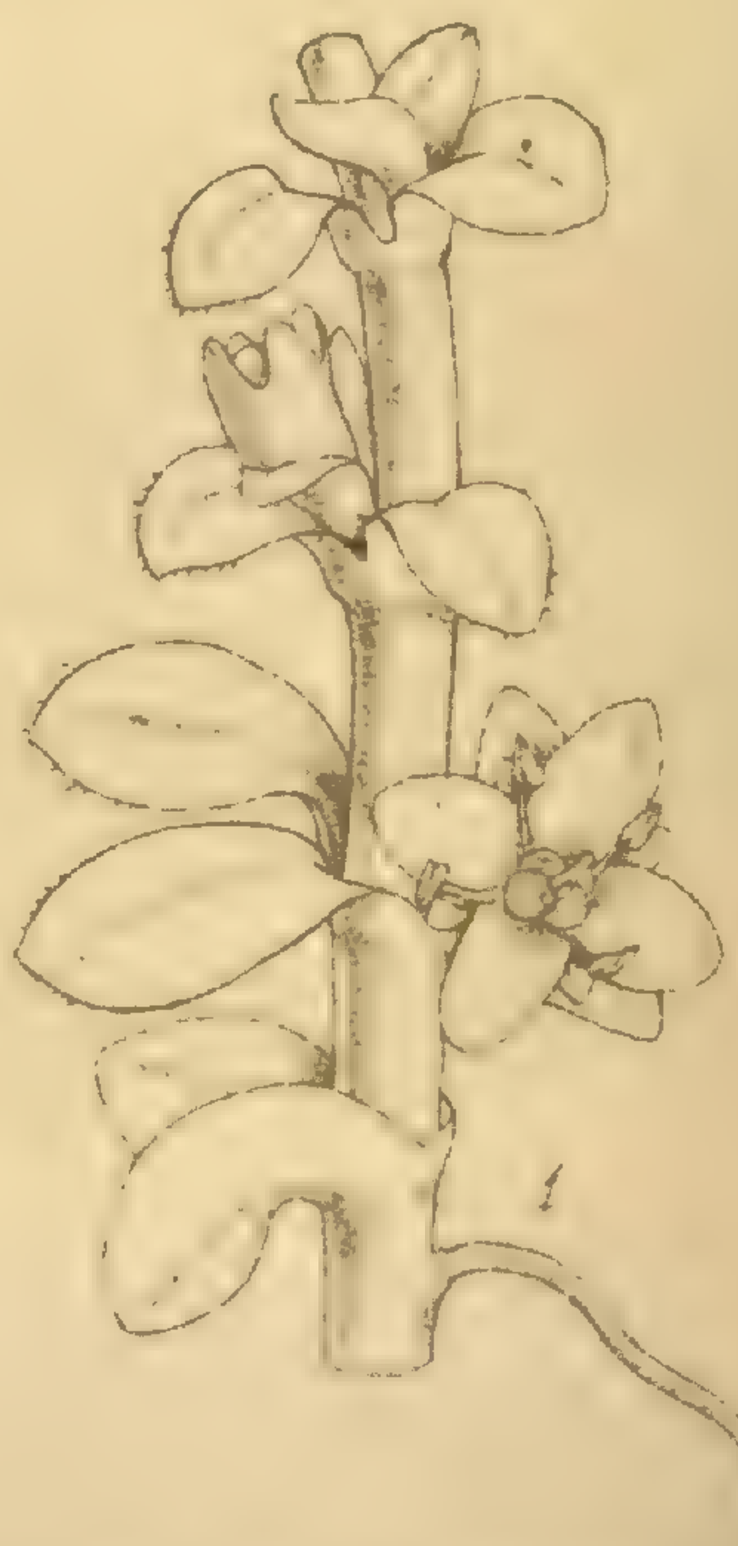
Hab. Panama, *Duchassaing*; British Guiana, *Schomburgk* (Nos. 545, 863 B); French Guiana, *Poiteau*; Brazil, Registro of S. João da Araguay, *Burchell* (No. 9,102), *Glaziou* (No. 10,279).

Folia 4–7 poll. longa, $1\frac{1}{3}$–$2\frac{1}{2}$ poll. lata; petiolus $\frac{1}{3}$–1 poll. longus. *Flores* $\frac{1}{3}$–$\frac{1}{2}$ poll. lati, aurei. *Carpidia* matura 1 lin. longa atque lata.

This plant I had sorted into *Malvastrum* in provisionally working up the Burchell Herbarium. Mr. Edmund Baker, in his revision of the Malveæ for his 'Synopsis,' now in course of publication, recognised the probable identity of the Brazilian plant with that from Panama collected by Duchassaing, and established upon it a new genus intermediate between *Sida* and *Malvastrum*. On comparing our specimens, however, with the description of *Sida guianensis* of Dr. Schumann, I suspected the identity of *Sidastrum* with that plant, and find this confirmed by inspection of Glaziou's specimen cited by Dr. S., which apparently had not been accessible to Mr. Baker. I think it prudent to leave it in *Sida*. I need not here enter upon the morphological value of the subulate 'bracts and bracteoles' associated with the congested flowers. The coherent 'bracteoles' very probably are the equivalents of the often 2- or 3-fid stipules.—D. Oliver.

Fig. 1. Bract and bracteoles. 2. Expanded flower. 3. Petal. *All enlarged.*





M.S del et lith

Tetrachondra Hamiltonii Petrie.

Plate 2250.

TETRACHONDRA HAMILTONII, *Petrie.*

Boragineæ.

Tetrachondra, *Petrie* (*gen. nov.*). *Flores* parvi, tetrameri. *Calyx* persistens alte 4-fidus, segmentis ovatis obtusis; fructifer immutatus. *Corolla* subrotata calycem paullo superans, limbi segmentis ovatis, fauce esquamata, æstivatione imbricata. *Stamina* 4 sinubus corollæ inserta; filamentis brevibus antheræ subæquilongis; antheræ parvæ rotundatæ dorsifixæ, biloculares, inappendiculatæ. *Ovarium* 4-partitum; stylus inter lobos erectus ovario 2-plo longior; stigma parvum. *Nuculæ* sæpius 4 erectæ areola parva basilari affixæ, dorso et apice rotundatæ, setulosæ, inferne triangulares, calycem persistentem stylumque subduplo superantes. *Semina* erecta, albuminosa; embryo teres albumini subæquilongus, cotyledonibus radiculæ æquilongis.—Herba *depressa repens glabra v. subglabra.* Folia *omnia opposita parva* $\frac{1}{12}$–$\frac{1}{10}$ poll. longa, *elliptica, obtusa v. obtusiuscula, integra, carnosula, obscure punctata; petioli latiusculi, plani, interdum parce setuloso-ciliolati, connati.* Flores *ramulos breves axillares foliiferos terminantes, sæpius solitarii.*

T. Hamiltonii, *Petrie in Herb. Kew.* (*sp. unica*). Tillæa Hamiltonii, *T. Kirk ex Hamilton in Trans. N. Z. Inst.* xvii. (1884) 292.

Hab. New Zealand, South Island; Lowlands of Southern Otago, Waipahi, *D. Petrie*; flats and river-bed of the Makarewa (or Mangarewa), *T. Kirk.*

A very remarkable little plant of doubtful immediate affinity, occurring, according to Mr. W. S. Hamilton (*l. c.*), with *Tillæa*, for which it is, at first sight, most readily mistaken, and other aquatic or semi-aquatic growths, with which it 'carpets the river-bottom to a very considerable depth.' The leaves are strictly opposite, the petioles being, indeed, connate, and the seeds contain a copious albumen, which is wanting in Borageæ proper. I have been unable to satisfy myself entirely as to the æstivation, farther than that it appears to be imbricate, though in what sequence in the segments I am unable to say.—D. Oliver.

Fig. 1. Fragment of flowering branch enlarged. 2. Bud from above, showing imbrication of corolla-lobes. 3. Corolla laid open. 4 Flower, the corolla and front-lobes of calyx removed. 5. Fruit. 6. Same, three of the nuts removed. 7. Detached nut, inner face. 8. Longitudinal section of seed, showing embryo. *All enlarged.*

VOL. III.—PART III.] [MAY.

HOOKER'S

ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS,

OF NEW AND RARE PLANTS,

SELECTED FROM THE

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FOURTH SERIES.

EDITED FOR THE BENTHAM TRUSTEES BY

DANIEL OLIVER, F.R.S., F.L.S.

EMERITUS PROFESSOR OF BOTANY IN UNIVERSITY COLLEGE, LONDON: LATE KEEPER OF THE HERBARIUM AND LIBRARY, ROYAL BOTANIC GARDENS, KEW.

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M.S. del, et lith.

Braya uniflora, Hk. f. & Thom.

Plate 2251.

BRAYA UNIFLORA, *Hook. f. et Thom.*

Cruciferæ. Tribe Camelineæ.

B. uniflora, *Hook. fil. & Thoms. in Journ. Linn. Soc.* v. 168; humilis, dense cæspitosa, glaberrima, collibus crassis petiolorum vaginis albidis arcte vestitis, foliis lineari-spathulatis obtusis integerrimis carnosis planiusculis, scapis unifloris sæpius folio brevioribus, sepalis interdum fere ad apicem v. inæqualiter cohærentibus basi subæqualibus oblongo-ellipticis obtusis marginibus hyalinis, petalis unguiculatis, lamina obovato-rotundata alba, ovario leviter compresso tetragono, ovulis in utroque loculo c. 5–6, siliquis (*in spp. Thomsonianis*) linearibus compressiusculis, suturis longitudinaliter sulcatis, valvis carnosulis, septo completo, seminibus c. 10 uniseriatis ellipsoideis leviter compressis.

Hab. Western Tibet, Nubra, 15,000–17,000 feet, *Thomson*; Yarkand Expedition, *Henderson*; Tibet, 17,000 feet, in 'sandy gravelly soil,' *Thorold.*

Folia pollicaria. *Siliquæ* 4–6 lin. longæ.

This curious little plant, of which a good flowering specimen has recently been communicated to the Kew Herbarium by Surgeon-Captain W. G. Thorold, is the only member of the large and familiar Order Cruciferæ—so far, at least, as my experience goes—in which we have true cohesion of the sepals. The cohesion is not always equal all round, it is true, but it is singular that in an Order of considerably over one thousand species, in a very large number of which the sepals are erect and closely applied in their imbricate æstivation, a tendency to a gamosepalous calyx should not be more frequent. — D. Oliver.

Fig. 1. Flowering branch. 2. Flower. 3. Petal. 4. Stamens and pistil. 5. Ovary after fall of petals and stamens. 6. Fruit. 7. Same laid open. *All enlarged.*

M.S.del. et lith.

Canthium lanciflorum, Hiern.

Plate 2252.

CANTHIUM LANCIFLORUM, *Hiern.*

Rubiaceæ. Tribe Vangerieæ.

C. lanciflorum, *Hiern in Oliv. Fl. Trop. Afr.* iii. 146; arbuscula ramosa v. frutex, ramis validis annotinis epidermide delapso farinaceo-rubiginosis, ultimis foliiferis fulvo-tomentosis, foliis coriaceis ellipticis v. oblongo-ellipticis acutiusculis basi rotundatis v. interdum emarginatis, supra scabride hispidis subtus tomentosis, breviter petiolatis, stipulis dense hirsutis e basi interpetiolari lata lanceolatis subulatisve, cymis plurifloris interdum contractis tomentosis pedunculatis axillaribus, bracteis ovatis, pedicellis brevibus v. calyce 2–3-plo longioribus, calycis dense tomentosi lobis oblongo-lanceolatis obtusiusculis tubo campanulato-turbinato æquilongis v. longioribus intus tomentosis v. interdum fere glabris, corolla, a'abastro elongato extus fulvo-hirsuto, rotata profunde 5-fida segmentis linearibus v. lineari-lanceolatis reflexis intus glabris tubo 2–3-plo longioribus, tubo intus annulo dense hirsuto pilis rigidis deflexis munito, staminibus exsertis, stylo exserto glabro stigmate conico-cylindrico apice bilobato calyptrato.

Hab. South Trop. Africa; Highlands of Batoka country, near the Victoria Falls, *Kirk*; Shire Highlands, *Buchanan*.

Folia 4–5 poll. longa, 2–2½ poll. lata; petiolus ⅙–⅓ poll. longus. *Corolla* lobis ¾ poll. longis.

I have not seen the fruit, but Sir J. Kirk's label attached to his specimens states that it is 'said to be one of the best fruits of the country,' and now, that its native country is being opened up, it may be well that attention should be called to it.—D. Oliver.

Fig. 1. Longitudinal section of flower, the corolla removed. 2. Corolla laid open. 3. Stamen. *All enlarged.*

Bambusa Wrayi, Stapf

Plate 2253.

BAMBUSA WRAYI, *Stapf.*

Gramineæ. Subtribe Eubambuseæ.

Bambusa Wrayi, *Stapf in Kew Bulletin*, 1893, 14; culmo peralto, valde nutante gracili, panicula maxime decomposita, spiculis fertilibus paucis, glumis gradatim increscentibus, infimis 2 vacuis, sequentibus 2–3 plerumque gemmiparis, gl florifera rachilla tenui elongata gemmulam rudimentariam gerente æquilonga vel subæquilonga, ovario oblongo sensim in stylum brevem attenuato, stigmatibus 3 tenuibus longis.

Hab. Perak in monte Gunong Inas ad fontes fluminum Selama et Plus River, 4,500–5,500 ped. alt., *L. Wray, jun.* (Herb. Mus. Perak. No 4,166).

Culmus 40–60 ped. altus, basi circa 1 poll. crassus superne tennissimus nutans apice ad solum usque flexus inermis, internodiis flavidis glabris nitidis teretibus fistulosis, tertio vel quarto supra basin longissimo interdum ad 7 ped. longo. *Folia* lineari-lanceolata longe et angustissime acuminata basi rotundata, 8–10 poll. longa 10–13 lin. lata, lævia, glabra, nervis secundariis utrinque 7–8, vaginis striatis pallidis glabris, ligula truncata brevi pilis 3–6 lin. longis deciduis ciliata. *Panicula* nuda vel apicem versus foliosa, a basi ramosissima, ramis vel abbreviatis verticillatim seu subverticillatim arcte congestis, vel elongatis, plerumque 5–8 poll., interdum vero ultra 3 ped. longis, striatis. *Spiculæ* laxius dissitæ vel sæpius fasciculatim congestæ, 6–9 lin. longæ. *Glumæ* infimæ ovatæ, intermediæ et superiores lanceolatæ, acuminatæ, tenuiter coriaceæ, opacæ, ad $4\frac{1}{2}$ lin. longæ, marginibus ciliatæ. *Palea* submembranacea gluma sua paulo brevior, superne quidem bicarinata, in carinis asperula vel ciliata, in sulco dorsali rachillam rudimentumque fovens. *Lodiculæ* obovatæ vel ellipticæ, ciliatæ, subæquales. Antheræ 6 glabræ, muticæ. *Ovarium* vix 1 lin. longum; stylus $\frac{1}{2}$ lin. longus stigmatibus 3 plumosis 3-plo vel 4-plo longioribus. *Caryopsis* (immatura) e basi oblonga in rostrum brevem cylindricum attenuata.

B. Wrayi is closely allied to *B. Griffithiana*, Munro, and, like this, to *Nastus*, as far as the composition of the spicula is concerned. The only essential difference is in the presence of "gemmæ" or sterile spiculæ in the axils of the glumes which immediately precede the flowering one. I am therefore of opinion that *Nastus* should be brought as a section or subgenus to *Bambusa*. There exists also a striking similarity, in the habit of loose and long-branched panicles, between *B. Wrayi* and *Melocanna virgata*, Munro, but the structure of the spikelet is quite different.

The Semangs call this bamboo *Buloh Versumpitan* and use the long internodes for their blowpipes. Some interesting particulars respecting this Bamboo and its uses are given in a letter from Mr. Wray to the Director of the Royal Gardens in the 'Kew Bulletin,' 1893, p. 16. —O. Stapf.

Fig. 1. Spikelet. 2. Sterile and upper perfect floret of spikelet. 3. Stamen. 4 Pistil. *All enlarged.*

M.S. del, et lith

Bournea sinensis, Oliv.

Plate 2254.

BOURNEA SINENSIS, *Oliv.*

Gesneraceæ. Subtribe Didymocarpeæ.

Bournea, *Oliv.* (*gen. nov.*). *Calyx* profunde 4-fidus; tubo campanulato, segmentis æqualibus lanceolatis v. lineari-lanceolatis corolla paullo brevioribus v. interdum subæquilongis. *Corolla* fere regularis profunde 4-fida; lobis adscendentibus æquilongis tubo paullo longioribus v. eodem subæquilongis. *Stamina* 4 lobis corollæ alterna, 2 v. 3 v. omnia demum plus minus exserta; antheræ liberæ distantes, oblongo-ellipticæ, dorsifixæ inappendiculatæ; filamenta anguste linearia glabra sub sinubus corollæ inserta. *Discus* campanulato-tubulosus integer ovarii basin cingens. *Ovarium* anguste lineari-oblongum apice in stylum brevem angustatum, stigmate obtuso bilobulato; placentæ intrusæ bifidæ, laminis ovuliferis recurvis. *Capsula* linearis apice acuminata ad basin gradatim angustata, loculicide dehiscens, valvis medio placentiferis haud tortis. *Semina* . . . . . .—Herba *acaulis, foliis longe petiolatis ovato-ellipticis, breviter acuminatis integris basi rotundatis anguste cordatis auriculis brevibus obtusis superpositis, supra læte viridibus, sparse et adpresse setuloso-pilosis, subtus præcipue in costa nervisque parce adpresse setulosis.* Scapi *patentim ferrugineo-pilosi apice umbellatim multiflori folia minora superantes; umbellæ involucratæ* 15–30-*floræ bracteæ herbaceæ lineari-lanceolatæ pedicellis pilosis sæpius breviores.*

B. sinensis, *Oliv.* (*sp. unica*).

Hab. China, Prov. Kwangtung, in the Lo-fau Mountains, 3,000 feet, *Bourne and Atkinson's Native Collector*; com. *C. Ford* (No. 324).

Folia majora 4–5½ poll. longa, 2–3 poll. lata; petiolus 1½–5 poll. longus, plus minus adpresse setuloso-hirtus. *Scapus* 4–7 poll. longus. *Flores* 5–6 lin. longi. *Capsula* 1–1¼ poll. longa.

One habitually feels averse to the multiplication of monotypic generic forms of Cyrtandreæ, of which several have reached us of recent years from China, but I believe no other course is open under existing taxonomics of the Tribe. The nearest affinity of *Bournea* would seem to be with *Oreocharis*, from which it differs in the tetramerous calyx, the 4-lobed corolla (of which one segment—I presume, the posterior—is but very slightly broader than the rest), and the relatively very short tube of the corolla as compared with its limb; the entire corolla indeed is shorter, or scarcely longer, than the calyx. The foliage somewhat resembles that of *Chirita eburnea*, Hance. Unfortunately, no seeds are left in the capsules of a previous year which remain attached to the specimen. The generic name commemorates, at Mr. Ford's request, the services rendered to botany by Mr. F. S. A. Bourne, H.B.M. Vice-Consul at Canton, to whom the Kew Herbarium is indebted for various valuable communications.—D. Oliver.

Fig. 1. Flower. 2. Corolla, laid open. 3. Anther, back and front view. 4. Ovary and disk. 5. Transverse section of ovary. *All enlarged.*

M.S.del, et lith.

Tretocarya sikkimensis, Oliv.

Plate 2255.

TRETOCARYA SIKKIMENSIS, *Oliv.*

Boragineæ. Subtribe Eritrichieæ.

T. sikkimensis, *Oliver*; herba ramosa setosa 2–3-pedalis, foliis caulinis ovato-lanceolatis acutis basi in petiolum angustatis, cymis congestis bracteatis terminalibus et in axillis foliorum pedunculatis v.-superioribus sessilibus, floribus brevissime pedicellatis v. sessilibus, calycis segmentis lanceolatis setosis fructiferis leviter accrescentibus, corollæ rotatæ tubo calyce subduplo longiore fauce squamis brevibus late rotundatis instructo, segmentis limbi rotundatis integris, antheris apicibus leviter exsertis ovali-oblongis inappendiculatis, nuculis gynobasi pyramidatæ medio areola parva immarginata affixis rhomboideo-ovoideis, dorso convexo medio fovea parva oblonga quasi perforatis leviter tuberculatis apice productis acutiusculis basi liberis rotundatis. Anchusa sikkimensis, *Clarke in Hook. Fl. Brit. Ind.* iv. 168.

Hab. Sikkim Himalaya, Latong, 11,500 feet, *Hooker*; in a collection from West Szechuan and Tibetan frontier, chiefly near Tachienlu, 9,000–13,500 feet, *Pratt* (No. 645).

Folia caulina inferiora longe petiolata, lamina 2–2½ poll. longa, 1 poll. lata; folia superiora minora; petiolus 1–2 poll. longus; omnia plus minus setoso-scabra. *Flores* ¼–⅓ poll. diam. *Nuculæ* 1 lin. longæ, facie supra areolam carinatæ.

Notwithstanding the remarkable difference in habit from the acaulescent monotypic *Tretocarya* of Maximowicz, I prefer to place this plant under that genus, with which, so far as I have ascertained, the structure of the flower and fruit is in satisfactory agreement, rather than under *Anchusa*, to which genus it is referred by Mr. Clarke (*l.c.*), though with hesitation, and the remark confirmatory of the course here taken, that 'the nutlets are exceedingly like those of *Microula* and do not agree well with those of *Anchusa*.' Our figure is from Mr. Pratt's specimen, in which I find quite mature nuts, which were wanting in the Sikkim specimens at Mr. Clarke's disposal. *Microula* is the genus most nearly allied to *Tretocarya*, so far as I can see, the latter only differing in the dorsal *fovea* of the nuts. Our plant a little resembles *Omphalodes trichocarpa*, Max., in habit.—D. Oliver.

Fig. 1. Flower. 2. Calyx. 3. Corolla laid open. 4. Nut showing dorsal areole. 5. Same, inner face, showing hilum. *All enlarged.*

M.S. del. et lith.

Actinocarya tibetica, C. B. Clarke.

Plate 2256.

ACTINOCARYA TIBETICA, *C. B. Clarke.*

Boragineæ. Subtribe Cynoglosseæ.

A. tibetica, *C. B. Clarke in Hook. Fl. Brit. Ind.* iv. 155; herba gracilis diffusa sparse strigillosa v. glabrata, foliis oblanceolatis spathulatisve obtusis, floribus minimis graciliter pedicellatis, pedicellis insertione bracteæ foliaceæ arcte approximatis, calycis 5-partiti segmentis oblongo-lanceolatis acutinsculis setuloso-ciliolatis, corollæ rotatæ tubo calyce breviore campanulato, ore leviter constricto squamis brevibus obtusis emarginatis instructo, limbi lobis rotundatis integris, antheris parvis inclusis ellipticis inappendiculatis medio tubi insertis, stylo ovarium superante stigmate capitellato, nuculis radiatim patentibus hilo minuto, hispidulo-scabridis et glochidiis sparsis stipitatis armatis, facie superiore cyatho cartilagineo glochidiis marginato ornatis.

Hab. Western Tibet; Nubra, near Karsar, 13,000 feet, *Thomson.*

Folia basi gradatim angustata, inferiora et radicalia longiuscule petiolata; lamina $\frac{1}{2}$–1 poll. longa. *Pedicelli* $\frac{1}{2}$–$\frac{1}{4}$ poll. longi. *Flores* $\frac{1}{8}$–$\frac{1}{6}$ poll. diam.

A curious little plant, of which we only possess Dr. Thomson's original specimens, allied to *Omphalodes* and *Thyrocarpus*, but different in the abrupt insertion of the glochidiate-margined cyathus on the face of the nuts, but more especially in the narrow attachment and radial disposition of the latter. In the 'Genera Plantarum' I observe the glochidia are described as 'sparsis v. nonnullis basi connexis, vix tamen cyathum formantibus,' while in the 'Flora of Brit. India' Mr. Clarke makes no reference to a cyathiform appendage. In ripe nuts, however, it is conspicuous and as here figured.—D. Oliver.

Fig. 1. Flower. 2. Calyx laid open, corolla removed. 3. Corolla laid open. 4. Fruit. 5. Nut detached and laid open. *All enlarged.*

M. S. del. et lith.

Microula Benthami, C.B. Clarke.

Plate 2257.

MICROULA BENTHAMI, *C. B. Clarke.*

Boragineæ. Subtribe Eritrichieæ.

M. Benthami, *C. B. Clarke in Hook. Fl. Brit. Ind.* iv. 167; herba acaulis v. nonnunquam ramulos laterales breves emittens, foliis rosulatis patentibus ovali- v. spathulato-oblongis basi angustatis v. distincte petiolatis obtusis setoso-dentatis v. repando-serratis scabride hispidis et parce setosis setis tuberculo insidentibus, cymis contractis, pedunculis crassis brevibus folio multo brevioribus bracteatis iteratim divisis, bracteis foliaceis margine setosis inferioribus flores superantibus, floribus sessilibus v. brevissime pedicellatis, calycis temp. florif. 5-fidi tubo campanulato-turbinato glabro v. parce setoso, lobis ovato-oblongis dorso setulosis, corollæ rotatæ tubo calycem æquante lobis rotundatis fauce squamis 5 obtusis retusisve instructo, ovarii lobis 4 distinctis lateraliter compressis areola gynobasi subplanæ insertis, nuculis ovoideis v. rhomboideo-ovoideis obtuse angulatis plus minus tuberculatis, tuberculis cum setis brevissimis recurvis glochidiatis coronatis.

Hab. Tibet, 15,000–18,000 feet, *Thomson*; *Strachey and Winterbottom*, *Thorold.*

Radix simplex v. parce ramosa recta elongata. *Folia* majora 1–3 poll. longa, $\frac{1}{2}$–$\frac{3}{4}$ poll. lata. *Flores* $\frac{1}{8}$ poll. diam. *Bracteæ* ultimæ oblongæ v. lineari-oblongæ setulosæ floribus breviores. *Antheræ* tubo corollæ insertæ, elliptico-oblongæ; filamentum breve. *Stylus* temp. florif. ovarium superans (2–3-plo longior); stigma parvum truncatum subcapitellatum.

The genus *Tretocarya* of Maximowicz (*Mél. Biol.* xi.; *Diag. Plant. Nov. Asiaticarum* iv. 270 (1881), of which we possess specimens collected by M. Przewalski in Northern Tibet, singularly resembles the above plant in almost every particular. But I find no trace, on the back of the nucules of *Microula*, of the '*fovea parva immarginata*' characteristic of those of *Tretocarya*. In the absence of fairly mature fruit it must be almost impossible to decide to which genus a specimen should be referred. Although I have no explanation to offer of the alleged difference in respect of this character of the nuts, one can hardly help suspecting that *Tretocarya* may prove to be a form of the plant here figured.—D. Oliver.

Fig. 1. Flower. 2. Calyx. 3. Corolla, laid open. 4. Pistil. 5. Nut, back and front view. 6. Same, laid open. *All enlarged.*

1.

2.

M.S del. et lith.

Bromelia argentina, Baker.

Plate 2258.

BROMELIA ARGENTINA, *Baker.*

Bromeliaceæ. Tribe Bromelieæ.

B. argentina, *Baker in Kew Bulletin*, 1892, p. 194; terrestris, acaulescens, foliis (5-pedalibus) super vaginam haud constrictis sed ad apicem gradatim angustatis, margine aculeis validis rigidis basi subito dilatatis a basi sursum versus uncinatis armato, inflorescentia dense paniculata oblonga pedunculata, pedunculo bracteis imbricatis ovato-lanceolatis scariosis obtecto, bracteis inflorescentiæ primariis ovatis dentatis in apicem anguste lanceolatam rubro-coloratam subito contractis, bracteis floriferis oblongis acute carinatis denticulatis v. integris, ovario oblongo trigono tomentoso, sepalis oblongis obtusis, petalis rubris lingulatis sepala paullo superantibus, staminibus styloque petalis brevioribus, bacca oblonga coriacea.

Hab. South America: Argentine Republic, *F. E. Harman*; Paraguay, *Dr. W. Stewart.*

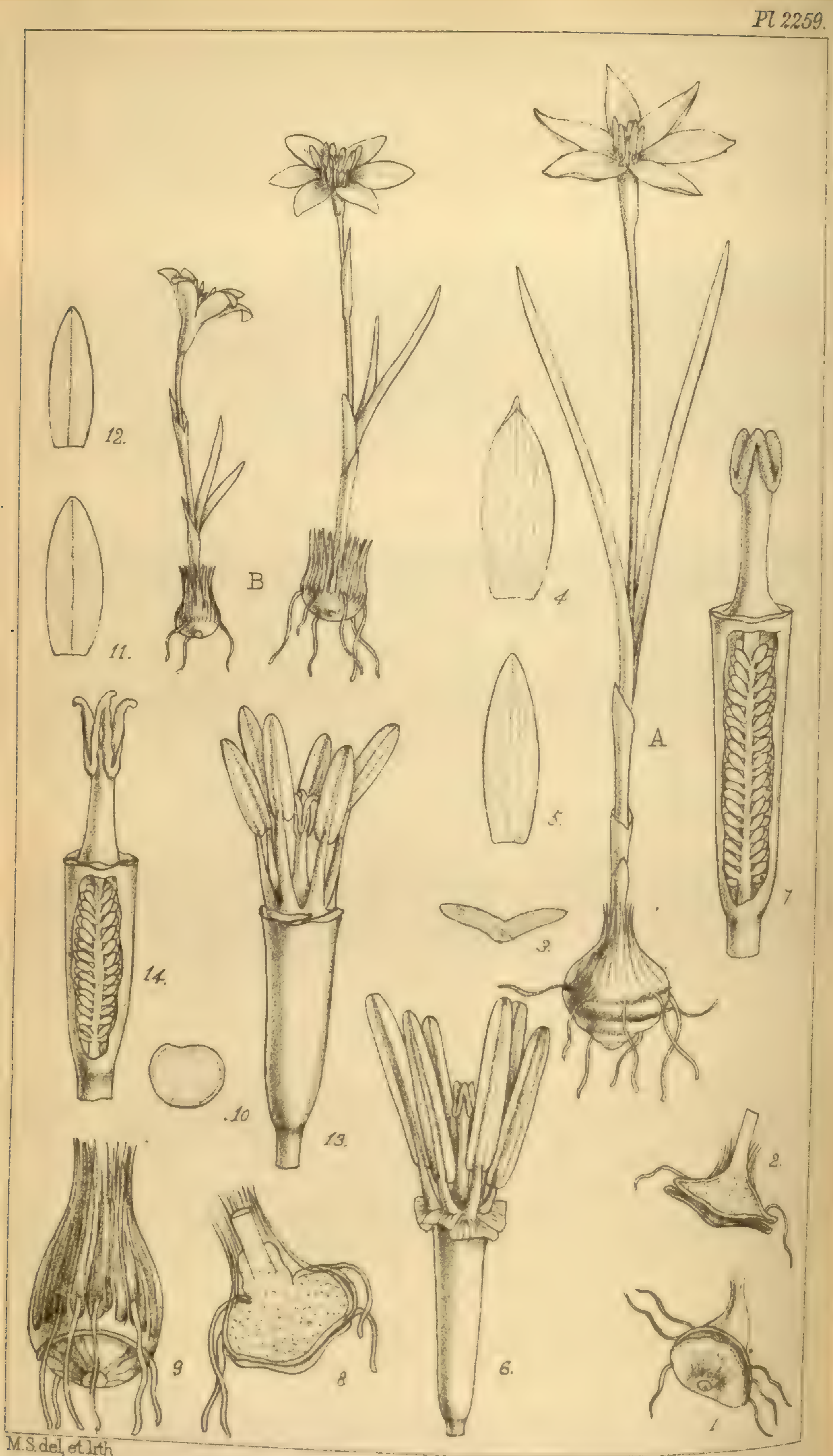
Folia super vaginam $1\frac{1}{2}$ poll. lata. *Inflorescentia* $\frac{1}{2}$-pedalis; pedunculus subpedalis validus bracteatus; bracteæ floriferæ $1\frac{1}{2}$ poll. longæ. *Ovarium* 1 poll. longum, $\frac{1}{3}$ poll. diam. *Sepala* pollicaria. *Bacca* (exsicc.) $1\frac{1}{2}$ poll. longa.

As explained in the 'Kew Bulletin' cited above, the original description of *Bromelia argentina* in my 'Handbook of the Bromeliaceæ' was vitiated by the leaves, sent with the inflorescence of the true plant, proving to belong to a different species. We are indebted to Dr. Stewart, H.B.M. Consul at Ascension, for the excellent and complete specimens which enable us to give the accompanying figure and corrected description.

The aculei of the median portion of the leaf are about one inch apart, laterally directed towards the apex, but occasionally a few are retrorse.

The importance of this species from an economic point of view, as affording the 'Caraguata fibre,' is pointed out in the number of the 'Kew Bulletin' above referred to. Its nearest ally would appear to be *Bromelia Regnellii*, Mez in Martius, 'Fl. Bras.' (Bromeliaceæ, p. 194, tab. 53).—J. G. Baker.

Fig. 1. Detached flower and bract. 2. Flower. the perianth-segments in front removed. *Slightly enlarged.*



A. Hypoxis curculigoides, Bolus.
B ——— Schlechteri, Bolus.

Plate 2259.

A.—HYPOXIS CURCULIGOIDES, *Bolus*.

B.—HYPOXIS SCHLECHTERI, *Bolus*.

Amaryllideæ. Tribe Hypoxideæ.

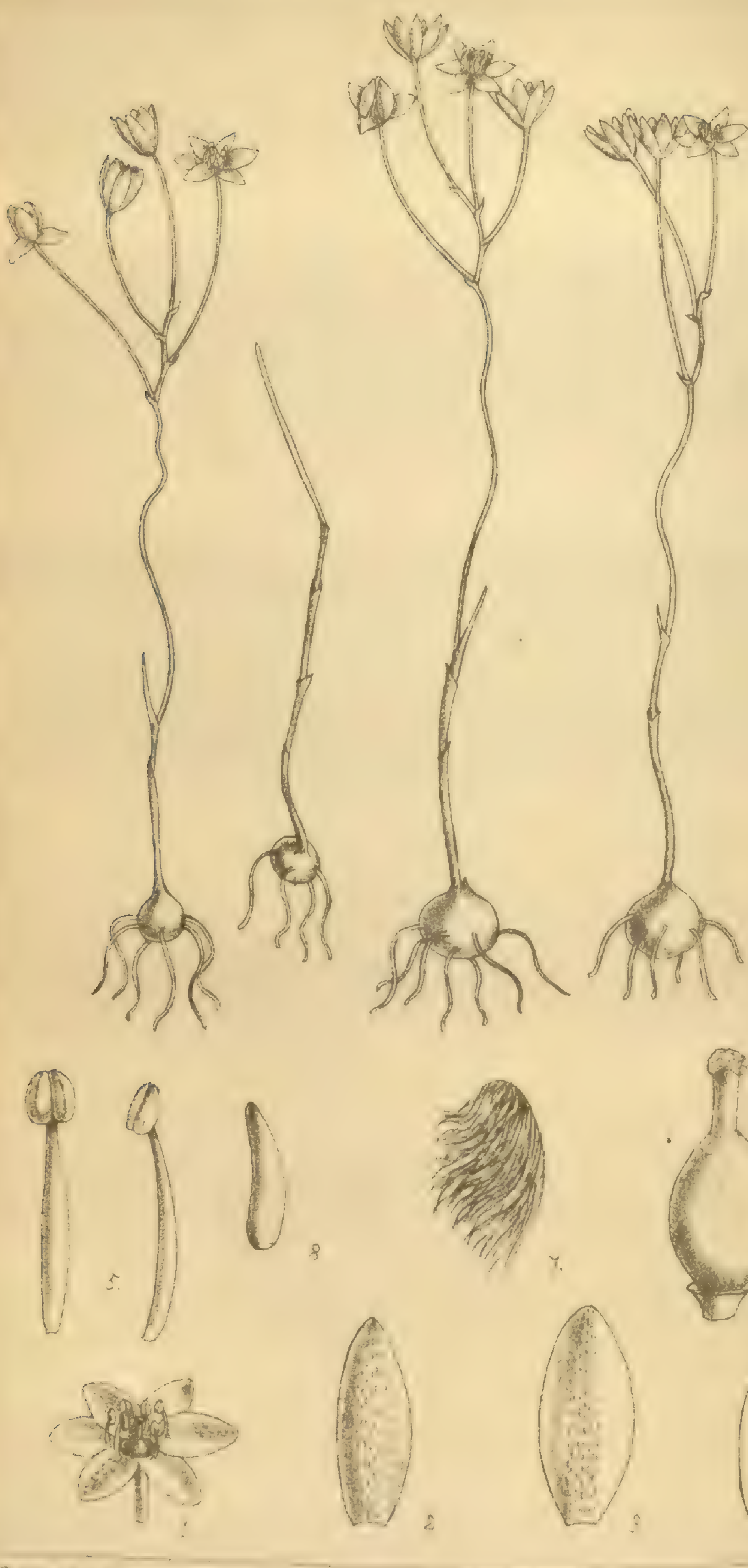
A.—H. curculigoides, *Bolus* (*nov. sp.*); tota glabra, gracilis, 3–4 poll. alta; cormo depresso-conico vel sub-discoideo margine acuta membrana lævi vestito basi applanato fibris paucis coronato, vagina basali elongata, foliis sæpius 2 rarius 3 linearibus, facie canaliculatis acutis flore brevioribus, pedunculo gracili sæpissime unifloro bractea vaginante acuta prædito, perianthii segmentis oblongis vel lanceolatis acutis supra flavis subtus viridibus, antheris linearibus flavis segmentis perianthii brevioribus, stigmatibus oblongis antheris duplo brevioribus, ovario oblongo-clavato.

Hab. Sandy heathy flats, Kenilworth, near Cape Town, April–May (after the first winter rains), *R. Schlechter* (No. 627).

Folia 3–7 cm. longa. *Perianthii limbus* 1·2–1·8 cm. longus.

This species may possibly have been hitherto regarded as a var. of *H. stellata*, L., and I know of no other with which it can be confused. I am indebted to Mr. Schlechter for pointing out to me its differences from that species. The corm of the latter is usually—and I suppose, invariably—globose. It is so described by Baker 'Journ. Linn. Soc.' xvii. p. 101); it is so in the specimens in my herbarium; and though it is differently represented in some of the older figures published under the name of *H. stellata*, I do not suppose that it can really be variable to so great an extent. The leaves and flowers of this plant are smaller and fewer (the latter strikingly resembling in shape and colour those of *Curculigo plicata*), the habit is somewhat different, and, finally, while this plant flowers in April and May, *H. stellata* does not appear until July and August.—H. Bolus.

A.—H. curculigoides. Fig. 1. Corm. 2. Same, longitudinal section. 3. Transverse section of leaf. 4–5. Perianth-segments. 6. Flower, the perianth-segments removed. 7. Longitudinal section of ovary. *Except figs.* 1 *and* 2, *enlarged.*



Eriospermum spirale, Berg.

Plate 2260.

ERIOSPERMUM SPIRALE, *Berg.*

Liliaceæ. Tribe Asphodeleæ: Subtribe Bowieæ.

Eriospermum spirale, *Berg. in Roem. and Schult. Syst.* vii., p. 1695; *Kunth*, *Enum.* iv. p. 654; *Baker in Journ. Linn. Soc.* xv. 266; cormo globoso, 6–10 millim. diametro, folio unico filiforme erecto, 2–2·5 centim. longo, e vagina hypogæa annotina anantha producto vel ad basin scapi serotino, scapo pollicari gracillimo, inferne setiformi rigido undulato-flexuoso, sursum leviter incrassato, apice corymboso; pedicellis 2–5 filiformibus erectis flexuosis, basi bractea minima ovata membranacea colorata præditis, apice sub flore articulatis, perianthii segmentis exterioribus lanceolatis acutis supra albidis subtus rubro-viridibus, 4–5 mill. longis, interioribus ovatis acutis æquilongis supra albis longitudinaliter purpureo-fasciatis, staminibus perianthio brevioribus incurvis, filamentis lineari-lanceolatis applanatis, antheris subrotundis, stylo brevi, stigmate punctiforme, ovario oblongo trigono, loculis 2-ovulatis ovulis superpositis, capsula oblonga perianthii longitudine, seminibus pyriformi-clavatis incurvis lana fuscescente densissime vestitis.—Anthericum spirale, *Linn. Mant.* 224.

Hab. Cape of Good Hope, *Koenig*, *C. W. Bergius*; in shallow soil upon granite rocks, Kenilworth, near Cape Town, fl. April, *Schlechter* (No. 600).

Flos expansus campanulatus 7 millim. latus. *Pedicelli* inferiores 1–2·5 cm. longi, superiores gradatim breviores.

This little plant is peculiar in the genus by its wiry flexuous scape, which greatly resembles that of *Carpolyza spiralis*, or of the smaller *Disæ* of the *Schizodium* group, and by its cymose inflorescence. It has escaped observation for many years —apparently since the time of C. W. Bergius, who collected about 1820—and has now just been refound by Mr. R. Schlechter.—H. Bolus.

Fig. 1. Flower. 2 and 3. Perianth-segments from outside. 4. Inner face of perianth-segment with adnate stamen. 5. Stamen, back and front view. 6. Pistil. 7. Seed, with lanate testa. 8. Same, testa removed. *All enlarged.*

1.

2.

Plate 2261.

RANUNCULUS LOWII, *Stapf.*

Ranunculaceæ. Tribe Ranunculeæ.

R. Lowii, *Stapf* (*sp. nov.*); acaulis, foliis radicalibus sæpius longe petiolatis lamina supra pilis adpressis cum petiolo strigoso-hirsuta subtus glabra rotundata basi rotundata truncata v. subcordata breviter 3–5–7-lobata lobis ovatis v. ovato-deltoideis apiculatis interdum utrinque 1–2-dentatis, scapo erecto foliis longiore adpresse strigoso unifloro, sepalis adpressis ovato-lanceolatis dorso plus minus strigoso-hirsutis, petalis 6–8 aureis subtus venosis oblanceolato-oblongis obtusis basi squamula nectarifera minuta instructis, carpellis fructiferis capitatis numerosis arcte congestis lævibus v. oculo armato papilloso-tuberculatis, glabris, stylo recurvato rostratis.

Hab. Borneo, Kinabalu, 11,000–12,000 feet, in moist places, *Low*, *Haviland*.

Folia cum petiolo 2–8 poll. longa, lamina $\frac{3}{4}$–$1\frac{1}{3}$ poll. longa atque lata. *Scapus* 4–10 poll. longus. *Flores* $\frac{2}{3}$–$\frac{3}{4}$ poll. diam. *Etærio* $\frac{1}{5}$–$\frac{1}{4}$ poll. longa.

Sir Hugh Low's specimens, received many years ago, were unfortunately destitute of flowers, but are clearly identical with those complete ones recently communicated by Dr. Haviland. Further detail I give in my paper on the Flora of Kinabalu, to be communicated to the Linnean Society.—O. Stapf.

Fig. 1. Sepal. 2. Petal, showing nectariferous scale. 3. Anther. 4. Carpel. 5. Same, matured. *All enlarged.*

M.S.del, et lith.

Agropyrum thoroidianum, Oliv.

Plate 2262.

AGROPYRUM THOROLDIANUM, *Oliv.*

Gramineæ. Tribe Hordeeæ.

A. Thoroldianum, *Oliv.* (*sp. nov.*) ; perenne, culmis pluribus brevibus diffusis, foliis linearibus valide nervosis marginibus plus minus involutis supra nervis marginibusque scabris basi interdum sparse piloso-ciliatis vagina supremi leviter inflata, ligula brevissima, spica ovata v. oblongo-ovata compressa densiuscula villosa, spiculis 5–6-floris adscendentibus, glumis exterioribus oblongo-lanceolatis brevissime aristatis 3- (v. oblique 4)-nerviis, gluma florifera late lanceolata brevissime aristata 5-nervi dorso rotundato dense pilosa, palea ovali-oblonga marginibus inflexis carinis parce spinulosis, ovario obovoideo piloso lodiculis lateraliter 1-dentatis inferne incrassatis paullo longiore.

Hab. Tibet, 16,500 feet ; *Thorold* (No. 108).

Culmi 3–5 poll. longi folia superantes. *Spicæ* $\frac{3}{4}$–1 poll. longæ.

This interesting grass, which has something of the aspect and dimensions of the annual *Agropyrum orientale*, would seem to be referable to the section of the genus, adopted by M. Boissier, of *Pseudosecale*, which in the 'Genera Plantarum' is merged in the section *Eremopyrum*. The flowering glumes are not carinate but rounded on the back. The awn of the flowering glumes may be from $\frac{1}{4}$ to $\frac{1}{6}$ the length of the glume.—D. Oliver.

Fig. 1. Part of leaf-sheath, showing ligule. 2. Spikelet. 3. Flowering glume. 4. Outer glume. 5. Palea. 6. Lodicules. 7. Stamens and pistil. *All enlarged.*

M.S del, et lith.

Ilex revoluta, Stapf.

Plate 2263.

ILEX REVOLUTA, *Stapf.*

Ilicineæ.

I. revoluta, *Stapf* (*sp. nov.*); frutex, ramulis nigrescentibus minutissime hirtello-puberulis, foliis minute stipulatis coriaceis rugosis breviter petiolatis ellipticis v. oblanceolato-ellipticis apice mucronatis integris v. sæpius apice utrinque 1–3-dentatis margine revolutis, costa subtus valde prominente parce setulosa, floribus axillaribus pedicellatis solitariis v. fl. ♂ in cymis paucifloris dispositis folio multo brevioribus, pedicellis bibracteolatis apicem versus breviter incrassatis, sepalis rotundatis glabris eroso-denticulatis, petalis albis rotundatis inferne coalitis, baccis nigrescentibus globosis 3-pyrenis.

Hab. Borneo, Kinabalu, 11,000 feet, *Haviland* (No. 1,087).

Folia $\frac{3}{4}$–$1\frac{1}{4}$ poll. longa, $\frac{1}{3}$–$\frac{2}{3}$ poll. lata; petiolus $\frac{1}{10}$–$\frac{1}{5}$ poll. longus. *Bacca* 3–4 lin. diam.

Allied to *I. crenata*, Thbg, and *I. rugosa*, Max.—O. Stapf.

Fig. 1. Leaf and its insertion, showing minute stipule 2. Pedicel and bud. 3. Corolla, laid open. 4. Young fruit. 5. Longitudinal section of ovary. *Enlarged.*

M.S. del, et lith.

Schima brevifolia, Stapf.

Plate 2264.

SCHIMA BREVIFOLIA, *Stapf.*

Ternstrœmiaceæ. Tribe Gordonieæ.

S. brevifolia, *Baill. Hist. des Plantes* iv. 254 (*ad not.*); frutex, ramulis crassiusculis ultimis foliis dense imbricatis obtectis, foliis coriaceis late ellipticis v. ovato-ellipticis sæpius obtusis basi rotundatis nonnunquam subcordatis brevissime petiolatis, floribus albis majusculis pedunculatis in cymis paucifloris folia vix aut leviter superantibus, sepalis rotundatis coriaceis ciliolatis, petalis calyce 4–6-plo longioribus basi extus sericeo-pilosis, ovario globoso dense albido-hirsuto, ovulis in loculis 2 v. 3, capsula globosa lignosa columella brevi.—Gordonia brevifolia, *Hook. f. in Trans. Linn. Soc.* xxiii. 162.

Hab. Borneo, Kinabalu, 8,000–10,000 feet, *Low*, *Haviland* (No. 1,126, 1,127).

Frutex v. arbuscula 4–14-pedalis. *Folia* 1–2 poll. longa, $\frac{3}{4}$–$1\frac{1}{3}$ poll. lata. *Pedunculi* $\frac{1}{2}$–$\frac{3}{4}$ poll. longi. *Flores* $1\frac{1}{2}$–2 poll. expansi. *Stamina* glabra; antheræ ellipsoideæ. *Capsula* $\frac{2}{3}$–$\frac{3}{4}$ poll. diam.

Although I have not ascertained the direction of the radicle, our material being scarcely adequate, yet from the character of the fruit and the few ovules, which appear to be laterally attached, I follow M. Baillon (*l.c.*) in referring this plant to *Schima* rather than to *Gordonia*. Sir J. Hooker (*l.c.*) points out also that the 'capitate central receptacle' of the capsule accords with Blume's character of Reinwardt's genus *Schima*.—O. Stapf.

Fig. 1. Bud. 2. Calyx laid open, showing pistil. 3. Stamen, back and front view. 4. Vertical section of ovary.—*Except fig.* 1, *enlarged.*

Plate 2265.

SCOTTELLIA, *Oliv.*

Bixineæ.

Scottellia, *Oliv.* (*nov. gen.*). *Sepala* 5 libera, imbricata, glabra, fere æquilonga v. exteriora paullo breviora, 3 exteriora cymbiformia elliptica, interiora late elliptica. *Petala* 5 imbricata, oblongo-elliptica v. ovato-lanceolata obtusa piloso-ciliata, intus basi squama crassiuscula obovato-cuneata facie interiore pilosa petalis multo breviora instructa. *Stamina* 5, hypogyna, petalis alterna libera, glabra; filamenta linearisubulata apice attenuata anthera fere duplo longiora; antheræ ovatoellipticæ basi bifidæ, connectivo latiusculo, locellis polliniferis marginaliter dehiscentibus. *Ovarium* glabrum obovoideo-ellipsoideum, basi leviter angustiore, 1-loculare, placentæ 3 multiovulatæ; stylus brevis breviter 3-fidus. *Fruct.* non vidi.—Arbuscula 15–20-*pedalis*, *glabra*. Folia *late elliptica*, *integra*, *breviter obtuse apiculata basi late rotundata v. subcordata glabra coriacea venis primariis utrinque* 6–9 *subtus cum costa prominentibus*; *petiolus brevis crassiusculus*. Flores *in racemis axillaribus v. quasi terminalibus multifloris obsolete puberulis folio longioribus dispositi*; *bracteæ minutæ caducæ*.

S. leonensis, *Oliv.* (*sp. unica*).

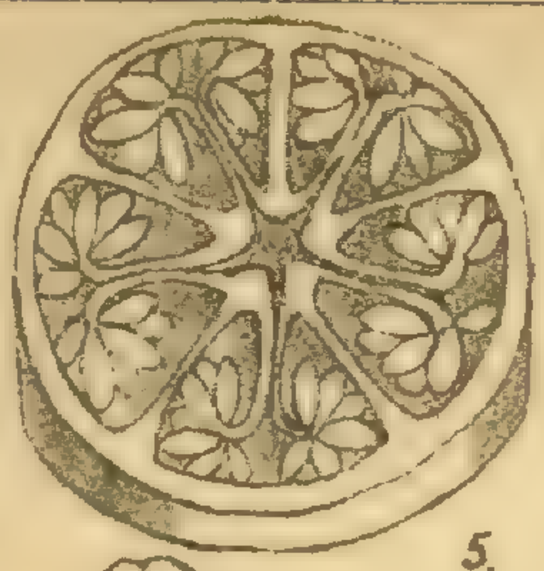
Hab. Collected on the Sierra Leone Boundary Commission, in the Samu Country, near Luseniya, *G. F. Scott-Elliot*.

Folia $4\frac{1}{2}$–$5\frac{1}{2}$ poll. longa, $2\frac{1}{2}$–3 poll. lata; petiolus $\frac{1}{10}$–$\frac{1}{8}$ poll. longus. *Racemi* 5–9 poll. longi. *Flores* $\frac{1}{3}$–$\frac{1}{2}$ poll. diam.; pedicelli $\frac{1}{6}$–$\frac{1}{3}$ poll. longi.

The generic name is contrived to commemorate as euphoniously as may be the important botanical services of my friend Mr. G. F. Scott-Elliot, who accompanied the Anglo-French Delimitation Commission of Sierra Leone in the capacity of Naturalist, and who had previously explored little-known parts of South Madagascar as well as the Transvaal. *Scottellia* is clearly a close ally of my genus *Dasylepis* (‘Journ. Linn. Soc.’ ix. 170), in which the stamens are indefinite. I placed this latter genus in *Pangieæ*, but it may prove expedient to constitute a distinct subdivision of *Bixineæ* to include *Scottellia*, *Dasylepis*, and *Rawsonia*. Dr. Baillon, I observe, regards *Dasylepis* as not generically different from *Rawsonia* (*Dict. de Botanique*). I have not referred to stipules in the description; I think they have probably been present, but in our advanced specimen none remain, and the scars are obsolete.—D. Oliver.

Fig. 1. Flower laid open. 2. Same, side view. 3. Detached petal, showing pilose adnate scale. 4. Anther, back and front view. 5. Pistil. 6. Transverse section of the ovary. *All enlarged.*

4.



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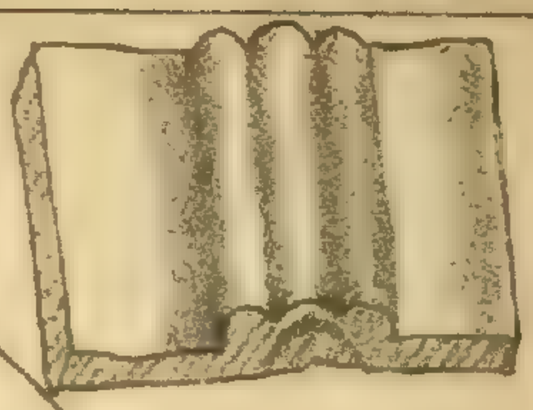


1.

2.

6

3

M S del. et lith

Adinandra verrucosa, Stapf.

Plate 2266.

ADINANDRA VERRUCOSA, *Stapf.*

Ternstrœmiaceæ. Tribe Ternstrœmieæ.

A. verrucosa, *Stapf* (*sp. nov.*); arbuscula glabra ramis floriferis crassitie pennæ cygni verrucoso-lenticellatis, foliis crasse coriaceis oblongo-ellipticis apice breviter obtuse productis emarginatis basi rotundatis costa subtus prominente longitudinaliter (sicco) bisulcata, floribus axillaribus solitariis geminis ternisve, pedunculo calyce breviore decurvo apice bibracteolatis, sepalis coriaceis rotundatis ciliolatis, petalis pallide roseis late ovato-ellipticis basi breviter lateque unguiculatis, filamentis basi coalitis cum antheris apiculatis præcipue in dorso argenteo-sericeis, ovario glabro ovoideo in stylum sensim abeunte, seminibus subreniformibus nitidis minutissime areolato-scrobiculatis.

Hab. Borneo, Kinabalu, 8,000 feet. *Haviland* (No. 1,101).

Folia 5–6 poll. longa, $2\frac{1}{2}$–$2\frac{3}{4}$ poll. lata; petioli crassi $\frac{1}{4}$–$\frac{1}{3}$ poll. longi. *Sepala* 3–4 lin. lata. *Petala* 6–8 lin. longa, 4–5 lin. lata. *Fructus* $\frac{1}{3}$ poll. diam.; semina $\frac{1}{2}$–$\frac{3}{4}$ lin. longa.

A fine species, well marked in its large very coriaceous leaves, thick midrib conspicuous beneath and bisulcate when dry, and large flowers.—O. Stapf.

Fig. 1. Portion of leaf showing bisulcate costa. 2. Calyx laid open, and bracteolate pedicel. 3. Petal. 4. Two stamens. 5. Transverse section of ovary. 6. Seed. *All more or less enlarged.*

Plate 2267.

BERSAMA TYSONIANA. *Oliv.*

Sapindaceæ. Suborder Melantheæ.

B. tysoniana, *Oliv.* (*sp. nov.*); foliis $\frac{1}{3}$–$\frac{1}{2}$-pedalibus, 9–11-foliolatis, rachi gracili aptera pilosula v. glabra, foliolis ovali-oblongis obtusis v. breviter apiculatis integris v. apicem versus parce serrulatis glabris glabratisve subtus venis conspicue reticulatis subsessilibus, racemis terminalibus fusco- v. ferrugineo-tomentosis, bracteis lanceolatis v. ovato-lanceolatis, sepalis coriaceis oblongo-lanceolatis acutiusculis postico lateralibusque basi gibbosis arcuatim incurvis 2 anticis ad medium v. fere ad apicem coalitis, petalis oblongis calyce duplo longioribus sericeo-pilosis reflexis, staminibus 4 monadelphis filamentis dilatatis parce sericeis pistillo hirsuto, ovario 4-loculare in stylum elongatum attenuato, capsula subglobosa, valvis medio septiferis dorso rugoso-corrugatis longitudinaliter profunde sulcatis arillo carnoso, testa corrugata.

Hab. Kaffraria, *Tyson* (No. 6,216).

Foliola superiora majora $1\frac{1}{3}$–$1\frac{2}{3}$ poll. longa, $\frac{1}{2}$ poll. lat. *Racemi cum* pedunculo $2\frac{1}{2}$–3 poll. longi. *Capsula* 1 poll. longa, 10–11 lin. diam.

We have a *Bersama*, superficially resembling this species, from Natal, collected by Gerrard (No. 1,428), but scarcely in a state to determine satisfactorily. It is perhaps more nearly allied to *B. abyssinica*, Fres. (which name it bore in Gerrard's distribution) than to *B. tysoniana*. For the excellent specimens in flower and fruit here figured we are indebted to Mr. Bolus.—D. Oliver.

Fig. 1. Detached flower. 2. Same, calyx and petals removed, showing staminal sheath and lobed disk. 3. Transverse section of ovary. 4. Seed and arillus. *All enlarged.*

M.S.del, et lith

Bersama maxima, Baker.

Plate 2268.

BERSAMA MAXIMA, *Baker.*

Sapindaceæ. Subtribe Melianthеæ.

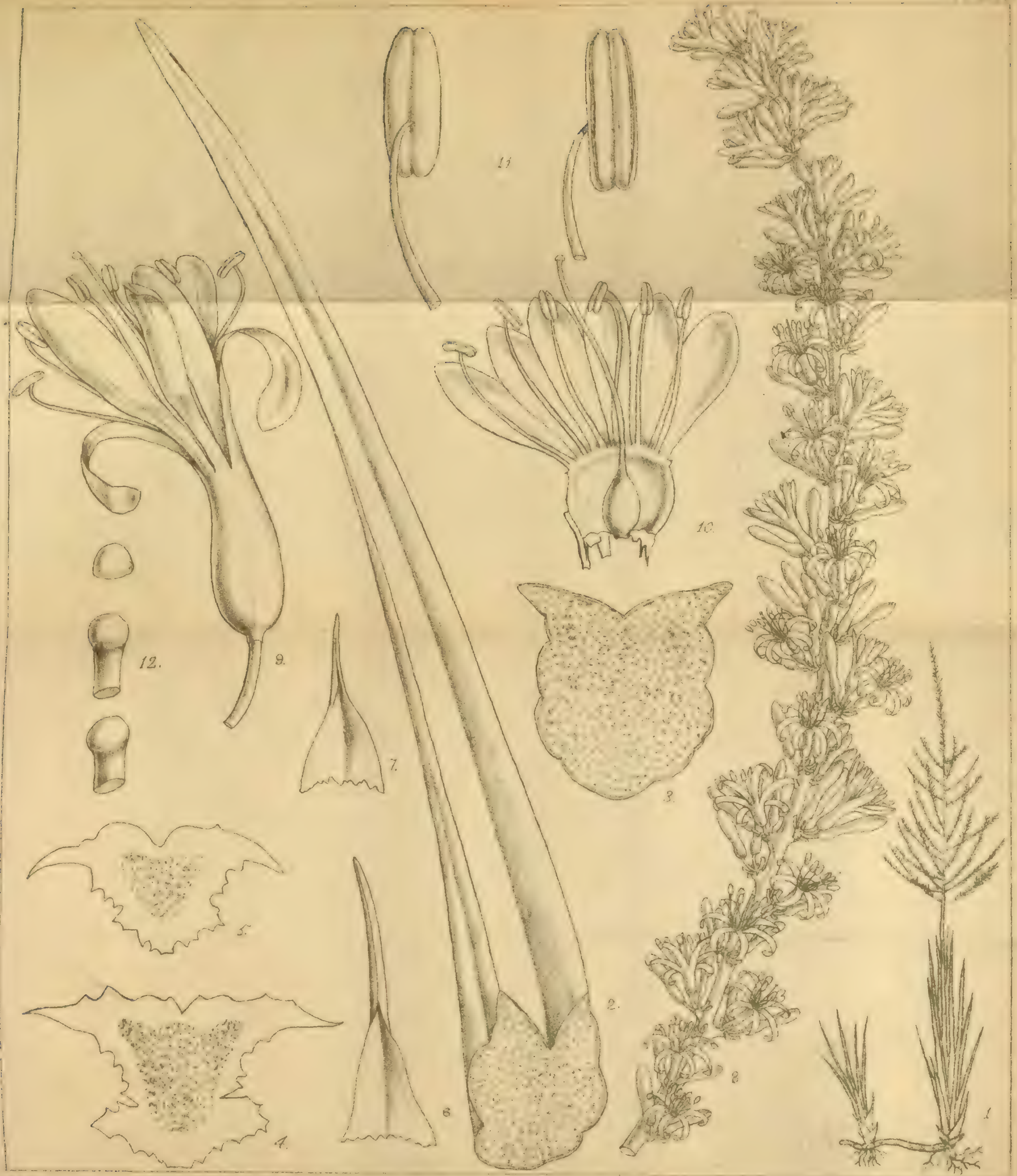
B. maxima, *Baker in Oliv. Fl. Trop. Afr.* i. 434; arbuscula 25-pedalis, ramis floriferis crassiusculis ferrugineo-hirsutis, foliis imparipinnatis amplis foliolis 7–9-jugis v. inferioribus alternis oblongis v. oblongo-ellipticis acutiusculis interdum breviter acuminatis basi plus minus rotundatis subsessilibus glabratis v. subtus præcipue in costa venisque hirtis, rachi apicem versus alata plus minus ferrugineo-hirtella, stipula intrapetiolari ovata acuminata extus ferrugineo-sericea, racemo multifloro elongato erecto ferrugineo pedicellis flore sæpius brevioribus fasciculatim subapproximatis, bracteis pedicello brevioribus lineari-subulatis, calyce profunde 5-fido segmentis persistentibus coriaceis ovatis extus ferrugineo-hirtis 2 anticis fere ad apicem coalitis, petalis calyce 3-plo longioribus imbricatis temp. florifero reflexis oblanceolato-oblongis obtusis anticis paullo angustioribus extus appresse piloso-tomentosis intus supra medium breviter tomentellis, staminibus 4 corolla subæquilongis filamentis crassiusculis inferne in tubum coalitis extus supra basin tomentosis antheris ellipticis utrinque emarginatis, disco postico carnoso, pistillo hirsuto, ovario tetragono 4-loculari in stylum longiusculum attenuato, stigmate capitellato 4-lobulato, capsula subglobosa ferrugineo-tomentosa obscure tetragona.

Hab. W. Trop. Africa, Corisco Island, *Mann* (No. 1,853).

Folia 2–3-pedalia; foliola evoluta superiora 6–9 poll. longa, $2\frac{1}{2}$–$3\frac{1}{2}$ poll. lata. *Racemus* cum pedunculo $1\frac{1}{2}$–2 ped. longus; pedicelli fructiferi $\frac{1}{2}$–$\frac{3}{4}$ poll. longi. *Petala* $\frac{1}{2}$–$\frac{2}{3}$ poll. longa. *Capsula* 10–12 lin. longa atque lata.

Nearly allied to this plant is a *Bersama* collected by Mr. Buchanan on the top of Mount Zomba, in the Shiri Highlands. Our specimens hardly admit of precise comparison. It has the subsessile leaflets and rachis alate above.—D. Oliver.

Fig. 1. Bud. 2. Calyx and stamens. 3. Petal. 4. Pistil. 5. Fruit. 6. Seed and arillus. *Except figure 5, all enlarged.*



M. S. del. et lith.

Sansevieria Ehrenbergii, Schwf.

Plate 2269.

SANSEVIERIA EHRENBERGII, *Schwf.*

Hæmodoraceæ. Tribe Ophiopogoneæ.

S. Ehrenbergii, *Schweinfurth in Herb. Nub. Exsicc.* (1865) **No. 31**; *Baker in Journ. Linn. Soc.* **xiv. 549**; foliis subcylindricis v. semicylindricis facie supra medium profunde sulcata infra medium planiusculis longitudinaliter sulcata marginibus acutiusculis plus minus prominentibus divaricatis, dorso rotundato leviter 5–7-canaliculato, foliis exterioribus parvis ovatis v. ovato-deltoideis apice longe cuspidatis, scapo foliis longiore, panicula ampla multiflora, floribus in racemis sublaxis adscendentibus dispositis, pedicellis fasciculatis (3–6) apicem versus articulatis, perianthio albido pedicello 4–5-plo longiore, segmentis lineari-oblongis obtusis tubo gracili supra ovarium leviter constricto longioribus, staminibus perianthio æquilongis filamentis gracilibus antheris oblongis dorsifixis, stylo breviter exserto.—S. Ehrenbergiana, *Schwf. Piante utili dell' Eritrea*, 30.

Hab. Nubia and Italian territory west of the southern portion of the Red Sea, *Schweinfurth*; Yemen, widely spread in the lower region to the east of Hodeidah, *Schweinfurth*; Somali-land, *Stace*.

Folia longiora 4–5 ped. longa, medio $1\frac{1}{4}$–$1\frac{1}{2}$ poll. crassa. *Flores* $\frac{2}{3}$–$\frac{3}{4}$ poll. longi.

This plant was first published by Mr. Baker (*l.c.*), under the name given to it in Dr. Schweinfurth's herbarium, in 1875, his description being based upon a small specimen collected by that distinguished explorer of the Red Sea region. In the course of the current year the living plant has been received at Kew from Somali-land, through the good offices of Lieut.-Col. E. V. Stace, H.M. Consul on the Somali Coast; correspondence relative to which, and report upon the commercial value of its fibre, will be found in the 'Kew Bulletin,' 1892, 129. The Somali plant has not yet flowered, but I follow Dr. Schweinfurth, to whom sections of the leaf have been submitted, in referring it to *S. Ehrenbergii*. Our plate is chiefly based upon careful drawings supplied by Dr. Schweinfurth. We give representations also of transverse sections of the fresh leaf (from the Somali plant at Kew), which are those described above, as well as of the dried leaf, the latter copied from Dr. Schweinfurth.—D. Oliver.

Fig. 1. Reduced view of entire plant. 2. Apex of leaf. 3. Transverse section of leaf, about 16 ins. from its base. 4 and 5. Transverse sections of dried leaf. 6 and 7. Reduced outer (cataphyllary) leaves. 8. Flowering branch of panicle. 9. Detached flower. 10. Same, laid open. 11. Stamen, back and front view. 12. Stigma. 9 to 12 *Enlarged* (floral details, and leaf sections 4 and 5, copied from Dr. Schweinfurth's drawings).

M. S. del. et lith.

Passiflora Jenmani, M.T.M.

Plate 2270.

PASSIFLORA JENMANI, *Mast.*

Passifloraceæ. Tribe Passifloreæ.

P. (§ **Decaloba**) **Jenmani,** *Mast.* (*sp. nov.*); ramulis teretibus puberulis, petiolis infra medium glandulis orbicularibus nigrescentibus sessilibus munitis, stipulis lineari-subulatis puberulis caducis, foliis pedatim 5–7-foliolatis, foliolo medio longiore, omnibus subcoriaceis oblongis acutis mucronatis basi in petiolulos breves angustatis, superne glabris, subtus puberulis, pedunculis brevibus cymosim 3-ramosis, ramis lateralibus floriferis, ramo centrali cirrhato, bracteis lineari-subulatis curvatis, floris tubo campanulato puberulo, intus glabro longitudinaliter sulcato, sepalis subcarnosis oblongis obtusis ecorniculatis, petalis sepalis æquilongis lineari- v. obovato-oblongis membranaceis 1-nerviis arcuatim venosis, corona filamentosa 3-seriali filis extimis petala æquantibus carnosulis apicem versus spathulatis petaloideo-dilatatis ad margines hyalino-denticulatis, filis inferioribus dimidio brevioribus apice capitatis rugosim lobulatis, corona membranacea ex ore tubi assurgente arcte plicata superne in lacinias membranaceas fimbrilliferas divisa, corona inframediana et corona basilari deficientibus; gynophoro tereti basi incrassato ruguloso, superne glabro, androecio basi cupulato infra medium in filamenta dividente, ovario dense cano-tomentello ovoideo stipitulo puberulo insidente, stigmatibus majusculis subquadratis, fructu globoso extus coriaceo, seminibus obovoideis transversim rugulosis.

Hab. British Guiana, on the Mazaruni river; *Jenman* (No. 5,797).

Foliola majora 2–3 poll. longa, $\frac{3}{4}$–$1\frac{1}{4}$ poll. lata; exteriora sæpius minora; petiolus 2–$2\frac{1}{2}$ poll. longus; petioluli $\frac{1}{6}$-$\frac{1}{3}$ poll. longi. *Pedunculi* $\frac{1}{4}$–$\frac{1}{2}$ poll. longi; pedicelli 1–$1\frac{1}{2}$ poll. longi. *Flores* diam. circa 2–3 poll.; tubus calycinus $\frac{1}{4}$–$\frac{1}{3}$ poll., basi obtusus truncatusve. *Petala* pallide rubro-aurantiaca. Fructus magnitudine pruni *Armeniacæ*. *Semina* $\frac{3}{16}$ poll. longa.

A remarkable species, technically belonging to the *Decaloba* section, but having more the appearance of a *Granadilla*. In its foliage it is unlike any other species except *P. pedata*, L., otherwise very different. *P. cirriflora* of Jussieu, according to the description, approximates in the character of the foliage, but Jussieu's plant is imperfectly known and may well be a *Modecca*. De Candolle's *P. septenata* is also doubtfully known, and may be the same as Jussieu's. Guiana is given as the habitat for both. It is noteworthy that there are now known several distinct species which are endemic in Guiana generally, but which have not, as yet, been found in the neighbouring countries.—Maxwell T. Masters.

Fig. 1. Vertical section of flower. 2. Intermediate segments of corona. 3. Portion of inner plicate corona. 4. Seed. 5. Same, more highly magnified.

M.S. del, et lith.

Oreosolen Wattii, Hook.f.

Plate 2271.

OREOSOLEN WATTII, *Hook. f.*

Scrophularineæ.

O. Wattii, *Hook. f.*, *Fl. Ind.* iv. 318; herba nana v. subacaulis carnosula crispule pilosula v. glabrata, radice primaria verticaliter descendente nonnunquam incrassata, foliis oppositis obovato-rotundatis -ellipticisve obtusis inæqualiter crenato-dentatis facie superiore sæpe (in sicco) ruguloso-corrugatis, floribus fasciculatis folio brevioribus brevissime pedicellatis, sepalis 5 inferne plus minus coalitis subæqualibus erectis lineari-oblongis obtusis corolla flava dimidio brevioribus, corollæ labio superiore breviter bilobato lobulis rotundatis in æstivatione exterioribus, labio inferiore trilobato lobis rotundatis intermedio minore, staminibus didynamis 2 anticis paullo longioribus filamentis inappendiculatis glabris antheris liberis v. plus minus cohærentibus loculis confluentibus, staminodio postico subulato, ovario ovoideo in stylum elongatum gracilem attenuato, ovulis indefinitis.

Hab. Sikkim Himalaya, Jongri, 14,000 feet, *Watt*; Phari and Lachoong, *Dunghoo*.

Folia 1–1½ poll. longa, ¾–1⅓ poll. lata, basi angustata v. breviter petiolata. *Flores* ⅔–1 poll. longi.

Fruit I have not seen. The additional specimens, collected by Dungboo, received from Dr. King since the publication of the genus by Sir J. Hooker, do not enable me to settle the affinity of the genus, which Sir Joseph suggested as probably with *Veroniceæ*. The general aspect of the plant suggests relationship with *Picrorhiza* and its allies. The posterior lip of the corolla—*i.e.* the lip bearing the staminode below its sinus—is clearly outside in æstivation.—D. Oliver.

Fig. 1. Calyx. 2. Corolla, laid open. 3. Anther. 4. Pistil and disk. *All enlarged.*

M.S.del,et lith.

Nematostylis loranthoides, Hk.f.

Plate 2272.

NEMATOSTYLIS LORANTHOIDES, *Hook. f.*

Rubiaceæ. Tribe Albertæ.

N. loranthoides, *Hook. fil. in Gen. Plant.* ii. 110; ramulis crassiusculis glabratis v. parce setulosis, foliis breviter petiolatis subcoriaceis ellipticis v. ovato-ellipticis plus minus acutis, stipulis basi late deltoideis abrupte breviter subulatis, cymis hirtellis setulosisve pluri-multifloris terminalibus, bracteis ovali-oblongis floribus breviter pedicellatis v. sessilibus, calycis segmento foliaceo tubo 2-plo longiore ovali-oblongo v. -oblanceolato rigidulo fructifero reticulato, cæteris minoribus subulato-lanceolatis 1 sæpius paullo majore, corollæ tubulosæ tubo cylindrico apice leviter dilatato lobis limbi tubo multoties brevioribus rotundatis obtusis, tubo intus usque ad insertionem antherarum piloso, antheris anguste linearibus apice mucronatis basi sagittatis, loculis glabris, filamentis brevissimis, stylo elongato longe exserto, stigmate bifido, calycis tubo fructiferi longitudinaliter 8–10-costato costis transversim irregulariter interruptis, epicarpio parce setuloso seriatim papilloso laxo v. facile soluto, endocarpio crustaceo v. osseo, seminibus solitariis apice truncatis funiculo dilatato pileatis, embryone subtereti, radicula supera obtusissima cotyledonibus fere æquilonga, albumine carnoso tenui. N. anthophylla, *Baill. in Bull. Soc. Linn. Paris.* 198; Pavetta anthophylla, *A. Rich. Mém. Rub.* 101.

Hab. Madagascar, var. *foliis glabris glabratisve*, Central Madagascar, *Parker*, and in a collection chiefly from Betsileo-land, *Baron* (No. 148); var. *foliis hirtis*, Central Madagascar, *Baron* (No. 751).

Folia 1–2 (sæpius $1\frac{1}{4}$–$1\frac{1}{2}$) poll. longa; $\frac{3}{4}$–1 poll. lata, vel, *in forma angustifolia*, 4–5 lin. lata. *Calyx* fructifer lobo foliaceo $\frac{1}{2}$ poll. longo; *Corolla* $\frac{2}{3}$–$\frac{3}{4}$ poll. longa.—D. Oliver.

Fig. 1. Detached flower. 2. Corolla, laid open. 3. Anther. 4. Calyx-tube more advanced. 5. Longitudinal section of ovary. 6. Seed. *All more or less enlarged.*

M S. del, et lith.

Pauridiantha canthufolia, Hk.f.

Plate 2273.

PAURIDIANTHA CANTHIIFOLIA, *Hk. f.*

Rubiaceæ. Tribe Mussændeæ.

P. canthiifolia, *Hook. f. in Gen. Plant.* ii. 70; frutex ramulis gracilibus strigillosis, foliis oblongo-ellipticis petiolatis acuminatis basi angustatis, venis primariis utrinque 4–5 venulis transversis subparallelis glabris glabratisve costa subtus et venis primariis plus minus strigillosis hirtellisve, stipulis subulatis erectis rigidiusculis, cymis axillaribus sæpius 1 (–3)-floris breviter pedunculatis, pedicello bracteolato cum calyce parce strigilloso, calycis tubo breviter campanulato v. turbinato, limbo 4–5-fido tubo subæquilongo lobis ovato-deltoideis, corollæ rubescentis calyce 2-plo longioris lobis ovato-lanceolatis patentibus recurvisve æstivatione valvatis tubo æquilongis, staminibus fauce hirsuto insertis, filamentis brevibus, antheris parvis ellipticis dorsifixis minute apiculatis, stylo erecto calycis limbum superante apice breviter obtuse 2-fido disco carnoso basi circumdato. —Hiern in Oliv. *Fl. Trop. Afr.* iii. 71.

Hab. Fernando Po, *Mann* (No. 167).

Frutex 12–15-pedalis. *Folia* $1\frac{1}{2}$–2 poll. longa; petiolus $\frac{1}{10}$–$\frac{1}{5}$-poll. longus; stipulæ $\frac{1}{6}$-poll. longæ. *Flores* $\frac{1}{12}$–$\frac{1}{10}$-poll. longi.

From near Lagos Dr. Rowland sent to Kew in 1890 specimens in fruit of a very close ally of the above, though probably a distinct species. It differs in having from seven to nine primary lateral veins in the leaves, and the ultimate veinlets are less distinctly parallel. The costa above also is strigillose, while beneath it is glabrous, or nearly so. The fruit (figured from the Lagos plant) is globose, size of a small pea, with a smooth thinly fleshy pericarp; the seeds very numerous, ellipsoidal, with a scrobiculate crustaceous red-brown testa.—D. Oliver.

Fig. 1. Flower. 2. Vertical section of ovary. 3. Corolla, laid open. 4. Seed. *All enlarged.*

M.S. del, et lith.

Zygoon graveolens, Hiern.

Plate 2274.

ZYGOON GRAVEOLENS, *Hiern.*

Rubiaceæ. Tribe Gardenieæ.

Z. graveolens, *Hiern in Oliv. Fl. Trop. Afr.* iii. 114; arbuscula, ramis albidis teretibus divergentibus glabratis, foliis ovato-lanceolatis v. oblongo-ellipticis obtusiusculis breviter petiolatis hirtellis tempore florifero vix evolutis, floribus albis (sicco nigrescentibus) in cymis densis plurifloris sessilibus axillaribus congestis, calycis parvi tubo glabro campanulato-turbinato, limbo 5-fido segmentis ovatis puberulo-sericeis cinerascentibus tubo brevioribus, corollæ subrotatæ extus glabræ tubo calycis limbo 4–6-plo longiore, lobis æstivatione sinistrorsum tortis ovali-oblongis obtusis, corolla intus faucem versus setuloso-pilosa, antheris exsertis fauce insertis anguste linearibus basi sagittatis, filamentis brevibus, stylo elongato exserto superne leviter incrassato obsolete bidentato inferne parce pilosulo, disco carnoso basin styli circumcingente.

Hab. East Trop. Africa, Zambesia, Tette, Shiramba and Cataracts of the Shire, *Kirk.*

Folia $1\frac{1}{4}$–$1\frac{1}{2}$ poll. longa, 4–7 lin. lata; petiolus 1–3 lin. longus. *Flores* 4–5 lin. diam.

The leaves are probably rather larger when fully matured. In our dried specimens they are very dark in colour, while the nearly black flowers strongly contrast with the pale or creamy indumentum of the minute calyx-teeth and bracts. As in the case of *Rhabdostigma* ('Ic. Pl.' 2275), our only specimens were collected by Sir John Kirk over thirty years ago. None of them are in fruit.—D. Oliver.

Fig. 1. Flower. 2. Calyx and style. 3. Corolla, laid open. 4. Vertical section of ovary. *All enlarged.*

Rhabdostigma Kirkii, Hk. f.

Plate 2275.

RHABDOSTIGMA KIRKII, *Hook. f.*

Rubiaceæ. Tribe Albertieæ.

R. Kirkii, *Hook. f. in Gen. Plant.* ii. 109; arbuscula glaberrima ramis tetragonis, foliis ellipticis v. oblongo-ellipticis obtusis v. obtuse acutatis, basi in petiolum angustatis, tenuiter coriaceis nervis primariis lateralibus haud conspicuis utrinque 6–7, stipulis late deltoideis acutis coriaceis persistentibus, paniculis axillaribus folio 2-plo longioribus pedunculatis ramis laxe divergentibus, pedicellis gracilibus sæpe flore longioribus, bracteis parvis coriaceis lanceolatis acutis, calycis limbo 5-fido dentibus parvis ovato-deltoideis obtusiusculis, corollæ rotatæ tubo quam calycis limbo multo longiore, ore dense barbato, lobis tubo æquilongis v. longioribus oblongis v. lanceolato-oblongis obtusis æstivatione sinistrorsum tortis, staminibus exsertis paullo infra sinubus insertis, filamentis brevissimis, antheris anguste lineari-lanceolatis connectivo apice apiculato. Hiern in Oliv. *Fl. Trop. Afr.* iii. 131.

Hab. East Tropical Africa, Quiloa, *Kirk* (No. 105).

Folia 3–4 poll. longa, $1\frac{1}{4}$–$1\frac{3}{4}$ poll. lata; petiolus $\frac{1}{8}$–$\frac{1}{6}$ poll. longus. *Stipulæ* $\frac{1}{5}$–$\frac{1}{4}$ poll. longæ atque latæ. *Flores* $\frac{1}{2}$ poll. diam.

The foliage and twigs dry a dark reddish- or purple-brown. No specimens of this plant have reached us since those originally received from Dr., now Sir John, Kirk, twenty-five years ago. The ripe fruit is not known. I observe that M. Baillon in his 'Histoire des Plantes,' vii. 431, reduces this genus to *Galiniera*. The ovules are solitary in our plant; the general *facies* is not that of *Galiniera*, and until the seeds are forthcoming, the albumen of which is ruminated in *Galiniera*, I think *Rhabdostigma* should be maintained.—D. Oliver.

Fig. 1. Bud, showing æstivation of corolla. 2. Ovary in longitudinal section and style. 3. Corolla laid open. 4. Anther. *All enlarged.*

VOL. III.—PART IV.] [JANUARY.

HOOKER'S

ICONES PLANTARUM;

OR,

FIGURES, WITH DESCRIPTIVE CHARACTERS AND REMARKS,

OF NEW AND RARE PLANTS,

SELECTED FROM THE

KEW HERBARIUM.

FOURTH SERIES.

EDITED FOR THE BENTHAM TRUSTEES BY

DANIEL OLIVER, F.R.S., F.L.S.

EMERITUS PROFESSOR OF BOTANY IN UNIVERSITY COLLEGE, LONDON: LATE KEEPER OF THE HERBARIUM AND LIBRARY, ROYAL BOTANIC GARDENS, KEW.

Under the Authority of the Director of the Royal Botanic Gardens, Kew.

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M. Foster del. et lith.

Breweria Heuaelotii, Baker.

Plate 2276.

BREWERIA HEUDELOTII, *Baker.*

Convolvulaceæ. Tribe Convolvuleæ.

B. Heudelotii, *Baker MSS. in Herb. Kew.*: alte scandens, glabra, ramis foliiferis elongatis teretibus, foliis submembranaceis petiolatis ovato-ellipticis breviter obtuse cuspidatis nonnunquam emarginatis basi sæpius late rotundatis integris glabris, floribus pedicellatis in cymis axillaribus plurifloris cano-tomentellis interdum racemosim elongatis sed folio v. nonnunquam petiolo brevioribus dispositis, pedicellis bibracteatis bracteis ovato-ellipticis concavis, sepalis incanis, 3 interioribus tenuioribus ovato-ellipticis 2 exterioribus accrescentibus rotundato-cordatis exteriore cæteris majore, corollæ inflato-infundibuliformis calyce 6–8-plo longioris segmentis tubo 4–5-plo brevioribus late ovato-rotundatis, ovario ovoideo basi disco carnosulo adnato incrassato apice parce pilosulo, sepalo exteriore fructifero amplo rotundato membranaceo tenuiter venoso basi auriculato-cordato auriculis rotundatis imbricatis, sepalo proximo opposito minore ovato-cordato, interioribus tribus omnino occultis.

Hab. W. Trop. Africa; Senegambia, *Heudelot* (No. 864); Sierra Leone Boundary Commission, Berria, near Falaba (No. 5,230); and Duunia, Talla Hills (No. 5,018), *Scott-Elliot.*

Folia $3\frac{1}{2}$–4 (–$5\frac{1}{2}$) poll. longa, 2–$2\frac{3}{4}$ poll. lata; petiolus $\frac{1}{2}$–1 poll. longus. *Flores* 8–13 lin. longi, pedicelli $\frac{1}{4}$–$\frac{1}{2}$ poll. longi; bracteolæ oppositæ $\frac{1}{10}$–$\frac{1}{8}$ poll. longæ. *Stamina* inclusa prope basin tubi inserta, æstivatione antheris erectis. *Sepalum* exterius fructigerum 2 poll. longum atque latum.

Mr. Scott-Elliot's excellent specimens in flower and fruit enable us to furnish a satisfactory figure of a very interesting plant, of which the inadequate material of M. Heudelot has long been in this Herbarium. Its nearest ally is a plant collected by M. Soyaux on the Gabun (No. 80), which differs in its obovate, narrowly-cordate-based leaves, pubescent beneath (*B. mirabilis*, Baker MSS. in Herb. Kew.). *B. Codonanthus*, Baker (*Prevostea africana*, Benth., *Codonanthus ? alternifolia*, Planch., in this work, t. 796), is also nearly related, but unknown to us in fruit. I leave this plant and its allies in *Breweria*, following the 'Genera Plantarum,' though one cannot but feel the generic bond strained almost to breaking when we compare it, for instance, with the Arabian species, formerly assigned to *Seddera*. It is curious to note how, in this case of a scandent species, the outer sepal simulates the accrescent bract in the similarly scandent and allied genus *Neuropeltis*.—D. Oliver.

Fig. 1. Calyx and pistil. 2. Corolla, laid open. 3. Pistil. *Enlarged.*

Sterculia Barteri, M.T.M.

Plate 2277.

STERCULIA BARTERI, *Masters.*

Sterculiaceæ. Tribe Sterculieæ.

S. (§ **Firmiana**) **Barteri**, *M. T. Masters in Oliv. Fl. Trop. Afr.* i. 218; arbor 30-pedalis ramis floriferis crassiusculis cortice lævi flavescente obductis, foliis petiolatis membranaceis rotundato-cordiformibus breviter obtuse apiculatis subintegris v. angulato-sinuatis glabrescentibus vernatione subtus plus minus stellato-hirtis, paniculis præcocibus racemiformibus in axillis superioribus dispositis inflorescentiam laxiusculam quasi terminalem formantibus, floribus pedicellatis, calyce tubuloso puberulo basi leviter dilatato alabastro apice subclavato obtuso, lobis 5 tubo multo brevioribus ovatis, tubo intus fere ad basin annulo setuloso-piloso instructo, columna staminea tubo paullo breviore, fl. ♂ : carpellis 5 liberis tomentellis breviter stipitatis antice anguste apertis biovulatis stigmatibus reflexis basi antheris sessilibus 13–15 circumdatis, carpellis fructiferis stipitatis radiatim divergentibus 1-spermis oblongis apice obtusis oblique mucronatis, pericarpio tenuiter papyraceo.

Hab. W. Trop. Africa; Nigritania, Nupé, *Barter* (No. 1,085); Abeokuta, *Rowland*.

Folia 6–10 poll. longa atque lata; petiolus $2\frac{1}{2}$–4 poll. longus. *Paniculæ* 3–8 poll. longæ. *Flores* coccinei 4–8 lin. longi. *Carpella* fructifera 2–$2\frac{1}{2}$ poll. longa, 9–10 lin. lata.

This is very interesting as the only Tropical African representative of the section *Firmiana* of *Sterculia*. For copious flowering specimens we are indebted to Dr. Rowland. Foliage and fruit we previously had from Barter.—D. Oliver.

Fig. 1. Detached flower. 2. Longitudinal section of flower, the upper part of the calyx removed. 3. Back view of an anther. 4. Carpels at time of flowering. *All enlarged.*

6
5
7
3.
1
2
8.
4

Plate 2278.

STERCULIA MUREX, *Hemsl.*

Sterculiaceæ. Tribe Sterculieæ.

S. Murex, *Hemsl. in Kew Bull.* 1893, 155; foliis digitatim 7-foliolatis longe petiolatis, petiolo teretiusculo hirtello, foliolis oblongo-ovalibus utrinque angustatis sessilibus apice acutiusculis mucronatis utrinque (in spp. exsiccatis) venulis parum elevatis minute areolatim-reticulatis subtus molliter supra scabriuscule stellato-hirtellis, floribus ♂ in paniculis laxis racemiformibus tomentellis apices versus ramulorum approximatis dispositis, calycis 5-fidi minute stellato-hirtelli segmentis lanceolatis acutis, carpellis fructiferis maximis crassiusculis lignescentibus brevissime stipitatis apice rostratis, apertis subhemisphæricis dorso spinis validis numerosis inæquilongis patentibus recurvisve armatis et breviter fastigiatim v. stellatim hirtellis, intus lævibus circ. 8–10-spermis, seminibus compresso-obovoideis ellipticisve nigrescentibus sublævibus, hilo parvo, testa crustacea, albumine ceroso.

Hab. South Africa, Transvaal, *J. Medley-Wood* (No. 4,710); *E. E. Galpin* (No. 1,072).

Petiolus 3–6 poll. longus. *Foliola* majora $5\frac{1}{2}$–$6\frac{1}{2}$ poll. longa. *Carpellum* apertum circiter 6–9 poll. diametro, spinis $\frac{1}{4}$–$1\frac{1}{2}$ poll. longis instructum. *Semina* circ. pollicaria.

This species, so remarkable in its large, strongly-armed fruit-carpels, is, with the exception of the rare and very local *S. Alexandri*, Harv., probably the most southern representative of the genus in the African continent. The fruit of *S. Alexandri* has not, so far as I know, been described, but that species is quite distinct from *S. Murex* in its glabrous blunt leaflets.—D. Oliver.

Fig. 1. Fragment of leaf. 2, 3, and 4. Detached stellate hairs of indumentum. 5 and 6. Androecium from above and below. 7. Detached anther, from back. 8. Seed. 1–7 *enlarged.*

M. S. del. et lith.

Phyllagathis elliptica, Stapf

Plate 2279.

PHYLLAGATHIS ELLIPTICA, *Stapf.*

Melastomaceæ. Tribe Sonerileæ.

P. elliptica, *Stapf* (*sp. nov.*); herba erecta v. e cauli repente radicante ascendens, superne dense hirsutiuscula et imprimis ad nodos setis longis flexuosis vestita, foliis subæqualibus petiolatis ob-ovatis v. obovato-ellipticis basi obtusis margine serrulato-denticulatis, supra primum villosulis demum glabratis subtus præcipue in nervis venisque hirsutis 5–7-nerviis, cymulis 2–3-floris axillaribus v. quasi terminalibus, pedunculo crassiusculo brevissimo bibracteato, pedicellis strictis glaberrimis gracilibus demum (fructiferis) incrassatis, calyce breviter campanulato glabro limbi segmentis 4 ovato-lanceolatis falcato-recurvis deciduis, petalis oblongis obovatisve, antheris æqualibus aureis lineari-lanceolatis obtusiusculis basi vix bilobis antice inappendiculatis postice breviter calcaratis, ovario ut in *P. uniflora*, capsula subhemisphærica subtetragona valvulis 4 retuso-truncatis, basi reliquiis calycinis tenuatis irregulariter 8-lobatis lobulis sæpius valide medio costatis circumdata.

Hab. Borneo; Kinabalu, damp localities, 4,000–5,000 feet. *Low*, *Haviland* (No. 1,286).

A very well-marked species more nearly allied to *P. tonkinensis*, Stapf, than to other Bornean species hitherto described.—O. Stapf.

Fig. 1. Detached flower, petals removed. 2. Anther. 3. Ovary and style, calyx-tube removed. 4. Fruit. *All enlarged.*

M S. del. et lith.

Phyllagathis uniflora, Stapf.

PLATE 2280.

MYLLAGATHIS UNIFLORA, *Stapf* (*sp. nov.*).

MELASTOMACEÆ. Tribe SONERILEÆ.

Myllagathis uniflora, *Stapf* (*sp. nov.*) ; caule e basi parce ramoso lignescente novellis rufo-hirsutis demum glabrescente, foliis maxime disparibus oblongo-lanceolatis acutiusculis basi acutis leviterve rotundatis a medio marginibus serrulatis supra obscure viridibus secundum costam utrinque 3–5 setulis adpressis uniseriatis obsitis, subtus in nervis adpresse rufo-hirsutis triplinerviis cum nervulis arcte intramarginalibus inconspicuis, floribus axillaribus solitariis breviter pedicellatis, calycis tubo breviter subcampanulato subtetragono limbo 4-lobato deciduo lobis e basi deltoidea lineari-subulatis v. falcato-recurvis, petalis obovatis acutis roseis, staminibus 8 æqualibus, antheris basi antice minute bilobatis inappendiculatis connectivo postice in calcar breve abeunte, ovario subgloboso ad $\frac{1}{3}$ calyci adnato vertice coronula obpyramidata tetragona ornato, capsula hemisphærica obtuse tetragona glaberrima albida valvulis breviter bilobis, seminibus oblique ovato-oblongis granulatis nitidulis.

HAB. Borneo ; Kinabalu, 6,000 feet, *Haviland*.

Herba adscendens $\frac{2}{3}$-1 ped. alta. *Folia* majora 1–1$\frac{1}{2}$ poll. longa, $\frac{1}{2}$ poll. lata, minora majoribus consimillima minima brevissime petiolata ; petiolus $\frac{1}{6}$–$\frac{1}{3}$ poll. longus. *Pedicelli* crassiusculi 1–1$\frac{1}{2}$ lin. longi. *Capsula* 2–2$\frac{1}{2}$ lin. longa.—O. STAPF.

Fig. 1. Detached flower. 2. Anthers. 3. Capsule. 4. Valve of capsule. 5. Seed. *All enlarged.*

M.P. del. et lith.

Imp. Lemercier et Cie, Paris.

Plate 2281.

SIPOLISIA LANUGINOSA, *Glaziou.*

Compositæ. Subtribe Euvernonieæ.

Sipolisia, *Glaziou MSS. in Hb. Kew.* (*gen. nov.*). *Capitula* multiflora homogama tubuliflora in glomerulum terminalem aggregata. *Involucrum* bracteis exterioribus foliaceis ovatis v. intermediis ovato-lanceolatis dense argenteo-lanatis, interioribus anguste linearibus acuminatis recurvis apice purpureo-coloratis dorso superne lanatis. *Receptaculum* foveolatum, foveolæ marginibus irregulariter dentatis et in squamis ovario 2–3-plo longioribus planis rigidis lineari-subulatis productis. *Corolla* tubo graciliter cylindrico, limbi segmentis anguste linearibus gradatim acuminatis apice dorsaliter albido-pilosis. *Stamina* filamentis glabris; antheris exsertis linearibus, apice connectivo lanceolato acutiusculo membranaceo producto coronatis, basi auriculis breviter productis obtusis per paria connatis. *Styli* rami angustissimi setulosi. *Achænia* subcylindrica v. obscure angulata 10-costata, valleculis intermediis subplanis v. parum elevatis. *Pappus* caducissimus, setosus, setis 30–60 biseriatis inæquilongis leviter complanatis barbellatis basi angustatis (quasi stipitatis) in tubum corollæ basin vaginantem coalitis.—Frutex *ut videtur, ramis cum lana argentea densa indutis.* Folia *alterna sessilia ovata v. ovato-lanceolata acutata subintegra v. obscure crenata utrinque dense stellato-tomentosa v. subtus lanata.* Rami *capituligeri axillares ut videtur, aphylli densissime lanati apice sub capitulis exterioribus glomeruli cum bracteis amplis foliaceis ovato-lanceolatis instructi.*

S. lanuginosa, *Glaziou* (*sp. unica*).

Hab. Brazil, near Diamantina, Minas Geraes, *Glaziou* (No. 19,470).

Folia 8–12 poll. longa, 3–5 poll. lata. *Rami* axillares florigeri 1–2 ped. longi. *Bracteæ* exteriores 4–6–10 poll. longæ. *Glomeruli* $2\frac{1}{2}$–4 poll. diam. *Involucri* 1–$1\frac{1}{2}$ poll. diam.

In the generic name of this noble Composite M. Glaziou commemorates the services to science of the Abbé M. M. Sipolis, Director of the Seminary of Diamantina, 'qui m'a toujours guidé avec une extrême bonté dans la plupart de mes excursions à l'intérieur de la province de Minas; l'entomologie lui doit une foule de découvertes précieuses, et la science en général beaucoup de services.' On the whole, perhaps, it is as nearly allied to *Proteopsis* as to any described genus of Vernoniaceæ, unless it be to some of the Lychnophoreæ, the genera of which are, I fear, too artificially distinguished. In the same collection with our present plant, M. Glaziou sends another lanate plant with the aspect entirely of a *Lychnophora* (*L. villosissima*, Mart.), but the capitula are in terminal ovoid spiciform heads, and the individual capitula may contain from twelve to twenty florets. The corollas and anthers are, unfortunately, too much injured for description, with a figure, in this work.—D. Oliver.

Fig. 1. Involucral scale. 2. Portion of receptacle with squamæ. 3. Bud. pappus partially removed. 4. Expanded floret, pappus removed. 5. Seta of pappus. 6. Anthers. 7. Style-branches. 8. Achene. *Enlarged.*

M S del. et lith

Eremanthus purpurascens, Cliv

PLATE 2282.

EREMANTHUS PURPURASCENS, *Oliv.*

COMPOSITÆ. Tribe VERNONIACEÆ.

E. purpurascens, *Oliv.* (*sp. nov.*); acaulis, caudice lignoso abbreviato basibus foliorum delapsorum dense sericeo-tomentosis arcte induto, foliis linear- v. oblongo-spathulatis obtusis basi angustatis coriaceis marginibus plus minus revolutis supra (in sicco) corrugatim-rugosis primum sericeo-lanatis denique glabratis subtus albido-lanatis, scapis lanatis folio brevioribus, glomerulo hemisphærico, bracteis paucis foliaceis oblongis albido-tomentosis involucratis, capitulis 4–6 congestis 8–10-floris, involucro proprio pappo æquilongo, bracteolis lineari-oblongis lanceolatisve dorso sericeo-villosis, ovario 10-costato, pappo purpurascente ovario 4–5 longiore.

HAB. Brazil, Minas Geraes, *Glaziou* (No. 19,464).

Folia 1–1$\frac{3}{4}$ poll. longa, $\frac{1}{4}$–$\frac{1}{3}$ poll. lata. *Glomerulus* 1 poll. diam., scapus $\frac{2}{3}$–$\frac{3}{4}$ poll. longus. Bracteæ exteriores $\frac{3}{4}$ poll. longi, involucri bracteolæ 5–6 lin. longæ.

The nearest ally of this species would appear to be *E. eriopus*, Baker, a species known to me only from description.—D. OLIVER.

Fig. 1. Involucral scale. 2. Floret. 3. Seta of pappus. 4. Anthers. 5. Style. *Enlarged.*

M S. del, et lith.

Vangueria nigrescens, Scott-Elliot.

Plate 2283.

VANGUERIA NIGRESCENS, *Scott-Elliot.*

Rubiaceæ. Tribe Vanguerieæ.

V. nigrescens, *Scott-Elliot, MSS. in Herb. Kew.*; inermis, glaberrima, ramis gracilibus teretibus, foliis petiolatis oblongo-ellipticis obtuse acuminatis venis primariis utrinque 5–7, cymis axillaribus paucifloris breviter pedunculatis bracteatis folio multo brevioribus, bracteis ovatis v. ovato-lanceolatis sæpe obtusis membranaceis internodiis inflorescentiæ longioribus, calycis limbo 5-partito, segmentis ovato-lanceolatis tubo campanulato v. hemisphærico 4–5-plo longioribus, corollæ segmentis lineari-oblongis apice abrupte caudatis tubo subæquilongis parce setoso-ciliatis, staminibus sinubus corollæ insertis segmentis multo brevioribus, ovario 5-loculare, stigmate calyptriforme ellipsoideo.

Hab. W. Trop. Africa. Sierra Leone Boundary Commission, near Falaba (No. 5,736) and Kafogo (No. 5,610), *Scott-Elliot.*

Folia (in spp. exsicc.) nigrescentia, membrancea, $2\frac{1}{2}$–$3\frac{1}{2}$ poll. longa, 1–$1\frac{1}{2}$ poll. lata; petiolus $\frac{1}{4}$–$\frac{1}{3}$ poll. longus; stipulæ deltoideæ, apiculatæ v. acuminatæ, basi connatæ. *Pedunculi* $\frac{1}{2}$ poll. longi; bracteæ 4–6 lin. longæ. *Calyx* segmentis $\frac{1}{3}$ poll. longis. *Corolla* segmentis cum caudis 6–7 lin. longis.

Very different from the only species with caudate corolla-lobes described in the 'Flora of Tropical Africa,' *V. velutina*, Hiern, with densely tomentose leaves and inflorescence, and *V. pauciflora*, Schweinf., with solitary or geminate flowers and truncate calyx.

So far as I can judge from the specimens, the copious inflorescence and conspicuous flowers of this species make it a desirable plant for stove cultivation.—D. Oliver.

Fig. 1. Segment of calyx. 2. Corolla laid open. 3. Pistil, ovary in vertical section. 4. Transverse section of ovary. *All*

M S. del. et lith.

Strychnos Barteri, Solered.

Plate 2284.

STRYCHNOS BARTERI, *Soler.*

Loganiaceæ. Tribe Euloganieæ.

S. Barteri, *Solereder* in Engler, *Bot. Jahrb.* xvii. (1893), 556; frutex cirrhiferus glaberrimus, cirrhis bifurcatis curvaturis incrassatis, ramulis obscure tetragonis, foliis coriaceis læte viridibus ellipticis breviter et late apiculatis triplinerviis, cymis axillaribus sessilibus v. brevissime pedunculatis multifloris, bracteis late ovatis concavis pedicellis æquilongis v. eisdem brevioribus sæpissime ebracteolatis, sepalis 4 ovato-rotundatis breviter late apiculatis v. obtusis, corollæ 4-fidæ segmentis linearioblongis tubo æquilongis tubo intus sæpius plus minus piloso extus glabro, staminibus exsertis, bacca globosa oligosperma, seminibus compressis ellipticis, embryone albumine fere æquilongo cotyledonibus planis subcordiformibus radiculæ rectæ æquilongis.

Hab. W. Trop. Africa, Onitscha, Nigritania, *Barter* (Nos. 1,247, 1,759); Sierra Leone Boundary Commission, Madina, Limba Country, *Scott-Elliot* (Nos. 5,569; 5,659).

Folia 2–3 poll. longa, 1–1$\frac{3}{4}$ (–2) poll. lata; petiolus $\frac{3}{4}$–$\frac{1}{4}$ poll. longus. *Cirrhi* geminati, pedunculati, pedunculus 1$\frac{1}{2}$ poll. longus. *Cymæ* congestæ $\frac{1}{2}$–1 poll. diam. *Flores* 2$\frac{1}{2}$–3 lin. longi, albi. *Bacca* crustacea, 1–1$\frac{1}{4}$ poll. diam.

There are some slight differences between the Niger and Sierra Leone specimens. The inflorescence of the latter is not quite so compact, and the sepals are connivent over the ovary; but this is after the fall of the corolla, and is probably the case in the Niger plant, the specimens of which are not so far advanced. The throat of the corolla is more densely pilose in the specimens from Sierra Leone. This plant is clearly a very near ally of *Strychnos densiflora*, Baillon in Adansonia, xii. 369, which in its turn is nearly related (by "les plus étroites affinités") to *S. Icaja* of the same author, of which, indeed, he says it may be only a simple form or variety. The leaves of these plants described by Professor Baillon are considerably larger than in our plant (in *S. Icaja* 4–6 ins. in length), and in *S. densiflora* a pair of bracteoles occurs at the extremity of the pedicel closely appressed to the calyx. Bracteoles in this position I fail to find in *S. Barteri*, in which, moreover, the flowers are considerably smaller. I no not find any note of the size of the fruit in *S. densiflora*.—D. Oliver.

Fig. 1. Flower and bracteoles. 2. Calyx. 3. Corolla laid open. 4. Pistil. 5. Fruit. 6. Seed. 7. Longitudinal section of same. *Analyses all enlarged.*

M.S. del. et lith.

Aegle Barteri, Hk.fil.

Plate 2285.

ÆGLE BARTERI, *Hook. f.*

Rutaceæ. Tribe Aurantieæ.

Æ. Barteri, *Hook. fil. MSS. in Herb. Kew.*; arbuscula spinosa glabra, spinis rectis gracilibus axillaribus petiolo sæpius brevioribus, foliis petiolatis trifoliolatis, foliolis membranaceis obovato- v. oblongo-ellipticis obtusis sæpe emarginatis basi in petiolulum angustatis obscure undulato-crenatis pellucide glanduloso-punctatis, racemis pauci- v. pluri-floris axillaribus v. quasi terminalibus, staminibus c. 15–20, disco crasso ovarii basin cingente sulcato ovario subgloboso v. ovoideo-globoso latiore, loculis ovarii 8, ovula in loculis 12–18.

Hab. Trop. West Africa, Nigritania, 'Ogbomorham,' *Barter* (No. 3,404). Abeokuta, *Rowland*.

Foliola $1\frac{1}{2}$–$2\frac{3}{4}$ poll. longa, 10–14 lin. lata; petiolus 1–$1\frac{1}{2}$ poll. longus; petioluli (foliol. centr.) $\frac{1}{3}$–$\frac{1}{2}$ poll. longi. *Racemi* 1–2 poll. longi; pedicelli breves. *Calyx* obscure et late rotundato-lobulatus. *Petala* elliptico-oblonga, imbricata. *Stamina* 13–20, libera. *Bacca* globosa cortice ligneo.

Mr. Barter describes the fruit 'as large as a shaddock, hard-shelled and uneatable. Calabashes are made of it.' This is a very near ally of the well-known 'Bael Tree' of India (*Æ. Marmelos*, Corr.), differing, as pointed out by Sir J. Hooker in the Kew Herbarium, in its more globose ovary, larger lobed disks, and fewer cells of the ovary, to which differences may be added the fewer stamens and more obtuse leaflets, usually not, as in *Æ. Marmelos*, more or less narrowed to an obtuse apex.

Whether rightly distinguished specifically or not, the occurrence of an Ægle in Nigritania, differing from the Bael chiefly in the floral characters mentioned, is of much interest.—D. Oliver.

Fig. 1. Bud. 2. Petal. 3. Andrœcium. 4. Detached stamen. 5. Pistil and disk. 6. Transverse section of ovary. *All enlarged.*

M.S. del. et lith.

Helichrysum densiflorum. Oliv.

Plate 2286.

HELICHRYSUM DENSIFLORUM, *Oliv.*

Compositæ. Subtribe Gnaphalieæ.

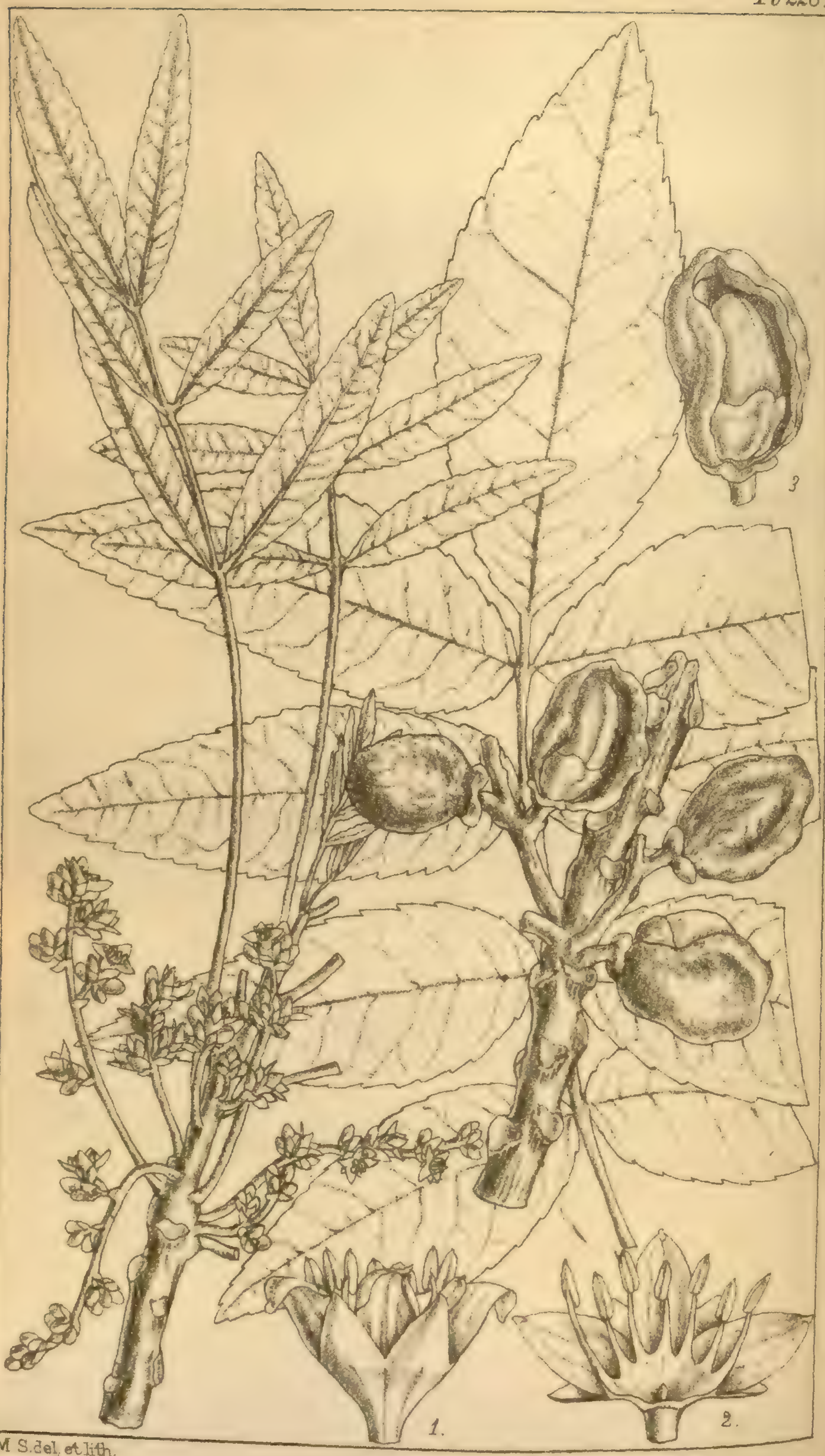
H. densiflorum, *Oliv.* (*sp. nov.*); frutex ramis teretibus crassitie pennæ olorinæ cicatricibus foliorum delapsorum notatis, primum cano-tomentosis, foliis apices versus ramorum congestis anguste ovali-oblongis obtusiusculis mucronatis basi in petiolum sensim angustatis supra parce appresse tomentosis glabrescentibusve subtus dense cano-tomentosis obscure trinerviis, capitulis 4–6-floris homogamis in cymas densas breviter pedunculatas umbellatim subglobosas confertis, squamis involucri floribus brevioribus sordide albis flavescentibusve 2–3-seriatis paucis oblongis v. interioribus apice leviter dilatatis minute dentatis fimbriatisve exterioribus linearibus paullo brevioribus, receptaculo nudo floribus ut videtur omnibus ♂, corolla breviter 5-dentata inferne anguste tubulosa, achæniis subteretibus lævibus pilis minutissimis albis dissite notatis, setis pappi caducissimis paucis rigidiusculis barbellatis ovario paullo longioribus.

Hab. South-East Trop. Africa, Nyassaland, *Buchanan* (No. 933).

Folia cum petiolo 2–2½ poll. longa, ⅖ poll. lata. *Cymæ* terminales congestæ, 2½–3 poll. latæ.

Of the few species of *Helichrysum* with this form of inflorescence —that is, with few-flowered capitula closely disposed in compact cymes—I find none like our present plant, which is also notable in its shrubby habit, with stout stems, leafless below. It is one of the many interesting novelties for which we are indebted to Mr. J. Buchanan, C.M.G., of Blantyre.—D. Oliver.

Fig. 1. Capitulum. 2, 3. Involucral scales. 4. Floret. 5. Seta of pappus. 6. Anthers. 7. Ovary, corolla removed, and style. 8. Achene. *All enlarged.*



M S.del, et lith.

Commiphora carvæfolia Oliv.

Plate 2287.

COMMIPHORA CARYÆFOLIA, *Oliv.*

Burseraceæ.

C. caryæfolia, *Oliv.* (*sp. nov.*); glaberrima, foliis imparipinnatis, foliolis lateralibus 3–5-jugis oblongo-lanceolatis basi plus minus rotundatis apicem versus angustatis acutiusculis v. acuminatis obtuse-crenato-serratis, paniculis præcocibus ad apices ramulorum congestis foliis brevioribus interrupte spiciformibus, ramulis secundariis brevissimis obsoletisve floribus propterea fasciculatim congestis sessilibus v. subsessilibus, drupis ellipsoideis pericarpio exteriore primum carnosulo demum in valvis tribus secedente, pyrenis ellipsoideis leviter compressis osseis, basi carnosulis quasi-arillatis, monospermis (loculo altero abortivo).

Hab. South Africa, Natal, *Wood* (Nos. 1,046, 1,409, 4,095). Kaffraria, near Komgha, *Flanagan* (No. 1,107).

Folia 10–14 poll. longa, petiolata; foliola membranacea $2\frac{1}{2}$–4 poll. longa, $\frac{3}{4}$–$1\frac{1}{4}$ poll. lata. *Paniculæ* $1\frac{1}{2}$–4 poll longæ. *Calyx* 4-fidus, segmentis ovatis, æstivatione valvatis. *Discus* adnatus tubum calycis vestiens. *Petala* flavescentia, perigyna, calycis tubo inserta, ovata, apice (in alabastro) mucrone incurvo, deinde obovato-elliptica, recurva, acuta. *Stamina* biseriata, perigyna, margine disci inserta. *Ovarii* rudimentum (in fl. ♂) minutissimum. *Drupa* $\frac{2}{3}$–$\frac{3}{4}$ poll. longa, pyrenis $\frac{1}{2}$ poll. longis osseis, basi carnoso-incrassatis rubris v. aurantiacis.

I follow Dr. Engler's 'Monograph of Burseraceæ' in adopting Commiphora as the generic name of this species, which resembles *C. Harveyi*, Engl.* of Natal more nearly than any other in the Kew Herbarium, though differing from it at first sight in the contraction of the lateral branches of the inflorescence, which has the appearance of an interrupted spike with congested flowers. *C. erythræa*, Engl., the original *Hemprichia* of Ehrenberg, from the Red Sea, has much in common with our species, and the puzzling description of the fruit given by Ehrenberg is quite intelligible on examination of that here figured. He describes the pericarp as 'sesquiplex, externum coriaceo-carnosum, . . . 2- ad 4-valve, deciduum; internum dimidiatum, lætissime rubrum, succulentum, . . . arillum mentiens, pyrenas basi

* Indeed, Wood's specimen No. 1,409 is cited by Engler as *C. Harveyi*.

M S del. et lith.

Mett. ex Kuhn, Polypod. Lucid. 91.

Plate 2288.

PHYLLOSTACHYS HETEROCLADA, *Oliv.*

GRAMINEÆ. Tribe BAMBUSEÆ.

P. heteroclada, *Oliv.* (*sp. nov.*); 1–3-pedalis, culmis foliiferis strictis gracilibus ramosis glabris internodiis sæpius $1\frac{1}{2}$-$2\frac{1}{2}$ poll. longis subteretibus v. inferne semiteretibus, foliis lanceolatis acuminatis basi rotundatis lamina brevissime petiolata glaucescente glabra v. glabrescente margine scabra, vaginis multinerviis glabris hirtisve ore setoso-fimbriatis, spiculis normaliter 3-floris cum flosculo terminali imperfecto v. in ramulis foliiferis in fasciculos densos sæpius turbinato-hemisphæricos axillares congestis v. in ramis scapisve pedunculatis radicalibus simplicibus v. ramosis aphyllis sed late bracteatis dense fastigiatis, bracteis in inflorescentiis radicalibus late ovato-rotundatis graciliter multinerviis apiculatis fasciculos floriferos subæquantibus gluma florifera lanceolata acuminata ecarinata dorso apicem versus hirsuta inferiore cæteris longiore spicula fere æquilonga 7–9-nerve, palea plus minus bicarinata dorso hirsuta.

HAB. China, Szechuen, *Dr. A. Henry* (No. 8,833); and in a collection from West Szechuen and the Tibetan frontier, chiefly near Tachienlu, 9,000–13,500 feet alt., *Pratt* (No. 384).

Rami aphylli dense floriferi adscendentes 10–12 poll. longi; pedunculi bracteis 2–3 poll. longis vacuis arcte amplexicaulibus vaginati; bracteæ primariæ floriferæ 1 poll. longæ, 1–$1\frac{1}{4}$ poll. latæ. *Folia* $1\frac{1}{2}$–2 poll. longa, 5–7 lin. lata, vagina fasciculo spicularum fere æquilonga. *Antheræ* exsertæ, lineares, obscure mucronulatæ, basi breviter sagittatæ auriculis obtusiusculis. *Stylus* 3-fidus, brachiis gracilibus. *Lodiculæ* 3 obovatæ v. rotundatæ, ciliatæ.

Dr. Henry's specimens reached us—owing, I believe, to his illness at the time—without his usual number and corresponding remark, so that it is difficult to speak with certainty as to the usual dimensions and habit of this interesting plant. The leafy sprays nearly resemble those of a bamboo received from him from Ichang (No. 450), called the 'Water Bamboo,' common there, but not found in water so far as Dr. Henry was aware. Our plant is related to Phyllostachys nidularia, *Munro*, in 'Gardeners' Chronicle,' 1876, ii. 774 (*undescribed*), a bamboo then cultivated at Florence. The upper florets of each spikelet appear to be staminate.—D. OLIVER.

Fig. 1. Spikelet. 2. Empty glume. 3. Flowering glume. 4. Palea. 5. Lodicule. 6. Anther. 7. Pistil. *All enlarged.*

2.
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1

Plate 2289.

RUBUS LOWII, *Stapf.*

Rosaceæ. Tribe Rubeæ.

R. Lowii, *Stapf* (*sp. nov.*); inermis, ramis teretibus nigrescentibus pilis sparsis tomentellis tandem glabratis, foliis 3- (interdum 1-) foliolatis, foliolis breviter petiolulatis ovato-ellipticis v. f. terminali majore plus minus obovato basi cuneato, acutis v. breviter acuminatis duplicato-serratis nervis primariis plus minus impressis subtus plus minus sparse sericeo-pilosis, petiolis tomentellis, stipulis lanceolatis sæpius integris, floribus axillaribus solitariis, pedicellis nutantibus parce pilosis, calycis tubo basi late rotundato v. truncato parce piloso v. glabrato, segmentis ovatis longe acuminatis, petalis roseis calyce subbrevioribus, staminibus subuniseriatis, receptaculo dense hirsuto-piloso, achæniis circ. 20 oblique ovoideis foveolato-reticulatis glabris apice stylo persistente longiusculo glabro coronatis.

Hab. Borneo, Kinabalu, 9,000–13,000 feet, *Low, Haviland.*

Foliola $\frac{3}{4}$–$1\frac{3}{4}$ (–$2\frac{1}{2}$) poll. longa, lateralia minora; petiolus 6–10 lin. longus. *Pedicelli* $\frac{3}{4}$–1 poll. longi. *Flores* $\frac{2}{3}$–$\frac{3}{4}$ poll. diam. *Achænia* $1\frac{1}{2}$–2 lin. longa, stylo persistente 2 lin. longo.

Allied to *Rubus nutans*, Wall., and *R. alpestris*, Bl.; differing from the former in its more erect fruticose habit and reticulate fruit-carpels, from the latter in the absence of aculei, broader leaflets with impressed nerves and solitary flowers.—O. Stapf.

Fig. 1. Petal. 2. Stamen, back and front. 3. Ripe carpel. *All enlarged.*

M. Stade, del. et lith.

Myrtus flavida, Stapf.

Plate 2290.

MYRTUS FLAVIDA, *Stapf.*

Myrtaceæ. Tribe Myrteæ.

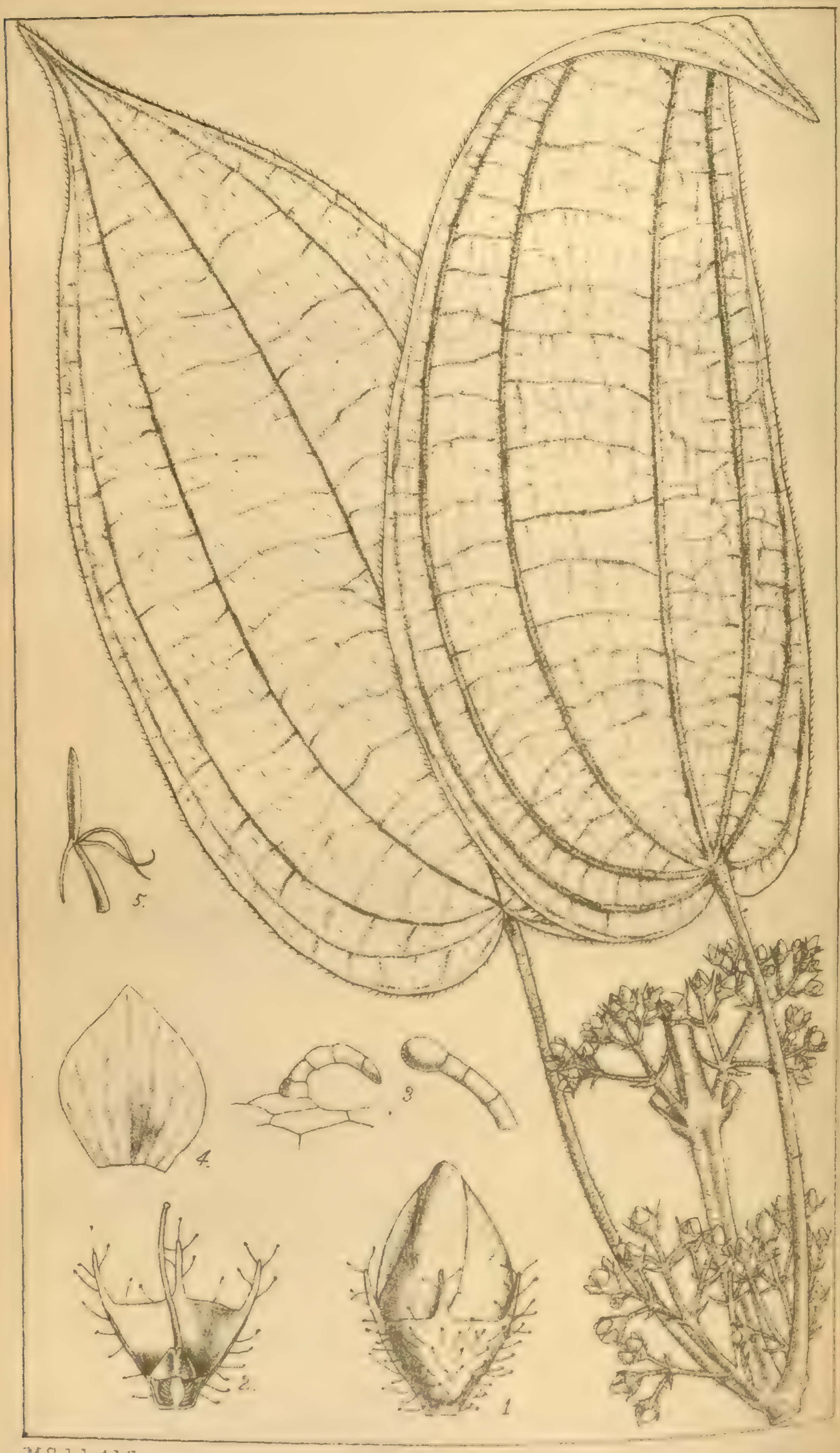
M. flavida, *Stapf* (*sp. nov.*); arbuscula v. frutex ramosissimus, novellis albido-villosis, foliis oppositis patentibus reflexisve brevissime petiolatis rigide coriaceis lanceolatis obtusis basi rotundatis marginibus plus minus revolutis supra glabris glabratisve subtus præcipue in costa sericeo-villosulis, floribus tetrameris axillaribus solitariis binis ternisve brevissime pedicellatis, calycis tubo villosulo turbinato lobis ovato-deltoideis tubo subæquilongis, ovario bilocular i, ovulis in utroque loculo 10–14.

Hab. Borneo, Kinabalu, 5,500–7,700 feet, *Haviland.*

Folia $\frac{1}{2}$–$\frac{3}{4}$ (–1) poll. longa, basin versus $\frac{1}{5}$–$\frac{1}{4}$ poll. lata; petiolus $\frac{1}{2}$–1 lin. longus. *Petala* flava. *Stamina* biseriata. *Stylus* filiformis, stigmate punctiforme. *Baccæ* calyce persistente coronatæ, globosæ, $1\frac{1}{2}$–2 lin. diam.

A remarkable species, and the first of the genus known to us from the Archipelago. Its habit is similar to that of *M. myricoides*, H.B.K., or *M. microphylla*, H.B., of South America. Our specimen from the loftier station, with more coriaceous revolute-margined leaves, approaches the New Caledonian *M. rufopunctatus*, Brongn. and Gris, and perhaps *M. Metrosideros*, Baill., of the Bellenden-Ker Mountains, Queensland.—O. Stapf.

Fig. 1. Flower. 2. Same, farther advanced. 3. Longitudinal section of same. 4. Fruit, with persistent connivent calyx-lobes. 5. Seed. *All enlarged.*



M.S. del. et lith.

Driéssenia glandulígera, Aud.

Plate 2291.

DRIESSENIA GLANDULIGERA, *Stapf.*

Melastomaceæ. Tribe Oxysporeæ.

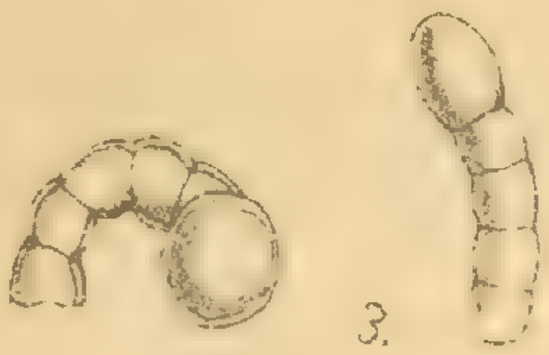
D. glanduligera, *Stapf* (*sp. nova*); herba 4-pedalis, foliis longe petiolatis ovato-ellipticis breviter acuminatis basi cordatis sinu angusto membranceis 7-nerviis supra setulis paucis brevibus incurvis aspersis margine setoso ciliatis subtus in nervis plus minus setigeris et præterea pilis minutissimis glanduligeris indutis venis transversis, paniculis parvis axillaribus petiolo glanduloso-setigero multo brevioribus, floribus breviter pedicellatis ternatim dispositis, calycis tubo turbinato-campanulato cum pedicellis glanduloso-setoso dentibus subulatis, petalis albis late ovatis acutis, staminibus æqualibus antheris aureis linearibus obtusis basi antice appendicibus binis filiformibus flexuosis postice calcare simili sed breviore auctis, ovario vertice coronula breviter 4-loba pyramidata ornato.

Hab. Borneo, Kinabalu, 5,000 feet alt. *Haviland* (No. 1,174).

Folia 4–7 poll. longa, 2–3½ poll lata; petiolus 1½–3½ poll. longus. *Paniculæ* circ. 1 poll. longæ; bracteæ oblongæ v. lanceolatæ, parvæ.

See remarks under the following species.—O. Stapf.

Fig. 1. Bud. 2. Vertical section of ovary and calyx-tube. 3. Glandular hairs. 4. Petal. 5. Auther. *All enlarged.*



3.

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5.

M.S del. et lith

Driesseria microthrix, Stapf.

Plate 2292.

DRIESSENIA MICROTHRIX, *Stapf.*

Melastomaceæ. Tribe Oxysporeæ.

D. microthrix, *Stapf* (*sp. nova*); glabra v. minutissime puberula, caule obscure tetragono, foliis membranaceis petiolatis in eodem jugo valde asymmetricis ovato-oblongis -lanceolatisve longe et oblique acuminatis basi cuneato-rotundatis integerrimis 5-nerviis venis transversis, floribus parvis in cymulis axillaribus subsessilibus 10–15-floribus petiolo subæquilongis dispositis, calycis hemisphærico-cupularis glabri dentibus brevissimis latis inconspicuis, petalis albis late rotundato-ovatis obtusis, staminibus subæqualibus, antheris linearibus obtusis basi antice appendiculis binis subfiliformibus auctis postice breviter calcaratis ovario vertice coronula pyramidata breviter 4-lobata persistente coronato, capsula calyce circumdata 4-valve.

Hab. Borneo, Kinabalu, alt. 3,500 feet, *Haviland.*

Folia 8–10 poll. longa, $2\frac{1}{2}$–3 poll. lata; petiolus $\frac{1}{3}$–$\frac{1}{2}$ poll. longus. *Pedicelli* $\frac{1}{8}$–$\frac{1}{6}$ poll. longi, calyce duplo longiores; bracteæ minutissimæ.

One leaf of each pair seems to be reduced to a mere rudiment in this species, in which, as in the preceding (*D. glanduligera*), the anthers are nearly or quite equal, and linear and obtuse, not rostrate as in the original species of Korthals (*D. axantha*). In other species they agree in all essentials with the type.—O. Stapf.

Fig 1. Flower. 2. Petal. 3. Glandular hairs. 4. Ovary and calyx-tube. 5. Fruit and persistent calyx. *All enlarged.*

M.S. del, et lith.

Polycline psyllioides, Oliv.

Plate 2293.

POLYCLINE PSYLLIOIDES, *Oliv.*

Compositæ. Tribe Anthemideæ.

Polycline, *Oliv.* (*gen. nov.*). *Capitula* homogama, discoidea, ovoidea v. oblongo-ovoidea, 10–20-flora (floribus hermaphroditis), in glomerulos densos, globosos, terminales, squamis paucis ovato-rotundatis oblongisve capitula subtendentibus quasi-involucratos, aggregata. *Receptaculum* angustum, subulatum, paleaceum; paleis scariosis oblongis v. obovato-ellipticis flore paullo brevioribus, concavis v. leviter cymbiformibus, obtusis, apicem versus eroso-fimbriatis. *Corolla* tubo cylindrico, parce glanduloso-papilloso, superne infundibuliforme-dilatato, limbo 5-fido, segmentis lanceolatis recurvis. *Antheræ* basi minute bidentatæ v. brevissime sagittatæ, auriculis per paria coalitis, apice connectivo membranaceo lanceolato productæ. *Styli* rami breves, recurvi, obtusi v. subtruncati. *Achænia* subcylindrica v. plus minus obovoidea, sæpius leviter compressa, nigrescentia, calva v. disco minuto brevissime fimbriato coronata.—Herbæ *erectæ*, *glabræ*, *caule aptero*, *gracili*. Folia *alterna*, *linearia*, *indivisa*. Capitulorum *glomeruli ad apices ramorum solitarii*, *receptaculo communi conico*, *capitulis singulis exterioribus bractea suffultis*.

P. psyllioides, *Oliv.* (*sp. nov.*); caulibus erectis, rigidis, costatis, foliis linearibus v. superne leviter dilatatis obtusiusculis basi sensim angustatis, achæniis transversim rugosis.

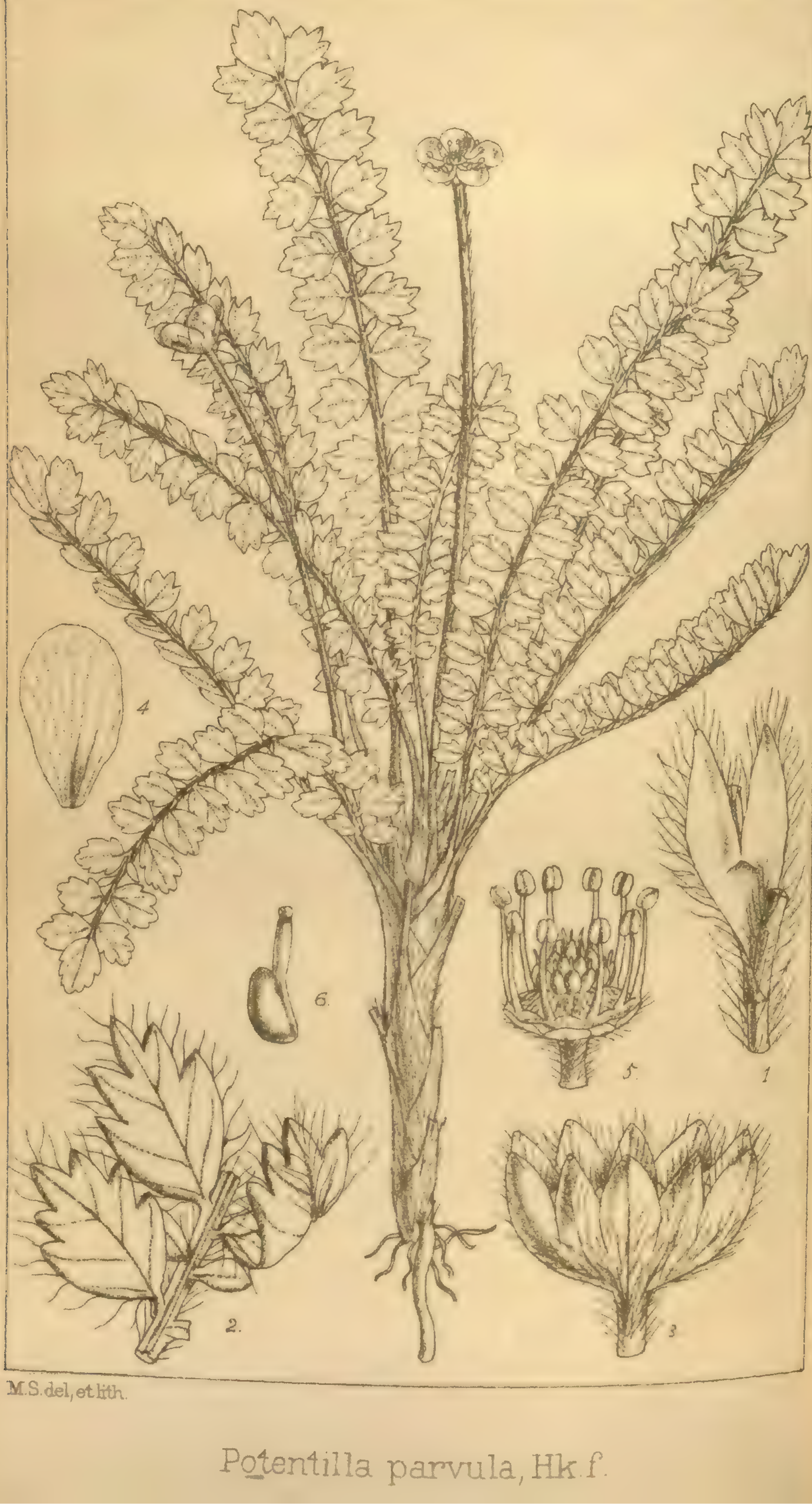
Hab. East Tropical Africa, Kilimanjaro, *Lieut. C. S. Smith.*

Herba $\frac{1}{2}$- (–$1\frac{1}{2}$-)pedalis, glaberrima. *Folia* 1–$2\frac{1}{4}$ poll. longa, latiora $\frac{1}{4}$–$\frac{1}{3}$ poll. lata. *Glomeruli* pedunculati, subglobosi, $\frac{1}{2}$ poll. diam.

Congeneric with the above is, no doubt, the plant which I described in the 'Journal of the Linnean Society,' xxi. 400, as *Sphæranthus gracilis*, collected in Masailand, on the Kapté plateau, by Mr. J. Thomson. It may be diagnosed thus:

P. gracilis, *Oliv.*; glomerulis compactis hemisphæricis, achæniis lævibus parce et minute hirtellis.

Caules $1\frac{1}{2}$-ped. *Folia* anguste linearia utrinque angustata, 2–3 poll. longa. *Glomeruli* $\frac{1}{2}$ poll. diam.



M.S. del, et lith.

Potentilla parvula, Hk. f.

Plate 2294.

POTENTILLA PARVULA, *Hook. f.*

Rosaceæ. Tribe Potentilleæ.

P. (§ **Polyphyllæ**) **parvula**, *Hook. f. MSS. in Herb. Kew.*; caule abbreviato foliorum vetustorum stipularum reliquiis sericeo-lanatis dense obsito, foliis pinnatifidis multifoliolatis, foliolis inferioribus gradatim minoribus sessilibus v. brevissime petiolulatis rotundato-ovatis apicem versus utrinque 1–3-dentatis, supra glaberrimis nitidis subtus in costa interdum parce pilosis, pedunculis unifloris folio brevioribus v. eodem æquilongis, bracteolis involucelli late ellipticis sepalis ovatis æquilongis, tubo calycis cum pedunculo sericeo-piloso, petalis obovatis aureis, staminibus binis sub utroque petalo, thalamo dense sericeo, carpellis glabris breviter oblique oblongis.

Hab. Borneo, Kinabalu, 11,000 feet, *Low*, *Haviland*.

Folia 3–5 poll. longa, v. in speciminibus nanis 1–2 poll. longis; foliola majora $\frac{1}{3}$–$\frac{1}{4}$ poll. longa. *Stipulæ* petiolo $\frac{3}{4}$-adnatæ oblongæ, 4–6 lin. longæ, acutæ, extus sericeæ, intus glabræ. *Flores* $\frac{1}{3}$–$\frac{1}{2}$ poll. diam.

The nearest ally of this species is *P. Mooniana*, Wt.—O. Stapf.

Fig. 1. Stipular base of leaf. 2. Portion of leaf, showing intercalated smaller segments. 3. Fruiting calyx. 4. Petal. 5. Stamens and carpels. 6. Detached carpel. *All enlarged.*

M.S. del, et lith.

Stranvæsia integrifolia, Stapf.

Plate 2295.

STRANVÆSIA INTEGRIFOLIA, *Stapf.*

Rosaceæ. Tribe Pomeæ.

S. integrifolia, *Stapf* (*sp. nov.*); frutex, ramulis novellis hirto-tomentosis demum glabratis, foliis petiolatis oblongo- v. oblanceolato-ellipticis acutis v. breviter acuminatis integris coriaceis subtus glabris supra nitidis in nervis primum tenuiter sericeo-pilosulis margine ciliolatis demum omnino glabris, corymbis terminalibus hirsuto-tomentellis multifloris foliis brevioribus, calycis turbinati hirsuti lobis ovato-deltoideis acutiusculis, petalis albis rotundatis, staminibus circ. 20, ovario semisupero, stylis 5 apice liberis leviter incrassatis truncatis, fructibus campanulato-globosis vertice hemisphærico e tubo calycino breviter exserto.

Hab. Borneo, Kinabalu, 11,500–13,000 feet, *Haviland.*

Folia 2–3 poll. longa, 10–12 lin. lata; petiolus $\frac{1}{3}$–$\frac{1}{2}$ poll. longus. *Corymbi* 20–40-flori, 1–1$\frac{1}{2}$ poll. lati; pedunculi $\frac{1}{2}$ poll. longi, hirti, pedicelli 1–3 lin. longi. *Fructus* $\frac{1}{5}$–$\frac{1}{4}$ poll. diam.

Allied to *S. glaucescens*, Lindl., and to a Chinese plant which may be *S. Davidiana*, Decn.—O. Stapf.

Fig. 1. Flower, petals and stamens removed, calyx-tube laid open. 2. Petal. 3. Fruit. *All enlarged.*

M.S del, et lith

Polyosma Hookeri, Stapf.

Plate 2296.

POLYOSMA HOOKERI, *Stapf.*

Saxifrageæ. Tribe Escallonieæ.

P. Hookeri, *Stapf* (*sp. nov.*); frutex, ramulis novellis obsolete puberulis mox glabris nigricantibus, foliis oppositis petiolatis ellipticis v. obovatis obtusis emarginatis coriaceis glabris margine anguste revolutis, cymulis paucifloris terminalibus folia vix superantibus, calycis tubo turbinato v. cylindrico-turbinato, dentibus deltoideis brevibus, petalis elongatis lineari-lanceolatis extus præcipue basin versus minute flavido-sericeis intus piloso-sericeis, filamentis pilosulis, fructibus ellipsoideis calyce persistente coronatis.

Hab. Borneo, Kinabalu, 8,000–10,500 feet, *Low, Haviland.*

Folia 1–1$\frac{3}{4}$ poll. longa, $\frac{3}{4}$–1 poll. lata, interdum multo minora; petiolus $\frac{1}{6}$–$\frac{1}{3}$ poll. longus. *Pedicelli* $\frac{1}{6}$–$\frac{1}{4}$ poll. longi, apicem versus 2–3-bracteolati; bracteolæ subulatæ. *Flores* 1–1$\frac{1}{4}$ poll. longi. *Fructus* nigricans lævis 4–5 lin. longus.

This interesting species is very distinct from its congeners in its large flowers and abbreviated inflorescence.—O. Stapf.

Fig. 1. Flower. 2. Same, the petals removed. 3. Petal, inner face. 4. Stamen, back and front. 5. Fruit, laid open. *All enlarged.*

M.S. del. et lith

Pleurostylia capensis, Oliv.

Plate 2297.

PLEUROSTYLIA CAPENSIS, *Oliv.*

Celastrineæ. Subtribe Euonymeæ.

P. capensis, *Oliv.*; arbor ramosissima glaberrima, ramulis gracilibus, foliis oppositis v. suboppositis tenuiter coriaceis breviter petiolatis venulosis oblongo-ovalibus obtusis basi in petiolum angustatis integerrimis v. obsolete repando-crenatis, cymis axillaribus breviter pedunculatis pauci- v. plurifloris umbelliformibus, ovario ovoideo in centro disci crenulati imposito 1-loculari 4–5-ovulato, fructu obovoideo (v. immaturo oblique clavato-oblongo), stigmate sessili infra medium lateraliter notato monospermo, semine exarillato subgloboso, albumine copioso carnoso, embryone viridi longitudine fere seminis, radicula brevi. Cathastrum capense, *Turcz. in Bull. Mosc.* 1858, i. 448.

Hab. South Africa; Kaffraria, near the Kei River; woods near Komgha, *Flanagan* (No. 623); Forests in Krakakamma, *Zeyher* (*Celastr.* No. 2); Kwelegha, *Hutchins*; *Gerrard* (No. 1,596).

Folia $1\frac{1}{2}$–2 (–$2\frac{1}{2}$) poll. longa, $\frac{2}{5}$–$\frac{2}{3}$ (–$\frac{3}{4}$) poll. lata. *Stipulæ* minutissimæ deciduæ. *Pedunculi* petiolis subæquilongi. *Flores* 5-meri. *Calyx* lobis rotundatis eroso-denticulatis, 2 exterioribus minoribus. *Petala* obovato-rotundata, calyce 2-plo longiora, margine minutissime eroso-denticulata, imbricata. *Stamina* 5, sub margine disci inserta; filamenta carnosula, glabra, petalis æquilonga; antheræ ovoideæ. *Stigma* peltato-capitatum, cum sinu laterali. *Fructus* $\frac{2}{5}$–$\frac{3}{5}$ poll. longus, pericarpio coriaceo.

Mr. Flanagan's excellent specimens of this plant in fruit and flower—for which we are indebted to Mr. Bolus—I have little hesitation in referring to the genus *Pleurostylia*, the original species of which belongs to India and Ceylon, while one or two allied species occur in Mauritius and Madagascar. Mr. N. E. Brown further identified them with specimens already in the Herbarium, from Gerrard and Macowan and Bolus (Herb. Norm. 915); referred to Turczaninow's genus *Cathastrum*, described in the absence of fruiting specimens, which must give place to *Pleurostylia*, which is of much earlier foundation (1834). The ovules in described species of *Pleurostylia* are said to be geminate: in our plant there are four or five, of which but one matures. Of the arilliform endocarp, 'semen . . . endocarpio arilliformi tectum,' noted in Gen. Pl. i. 364, I find no evidence in *P. capensis*; nor does Tulasne, in his careful description of *P. pachyphlœa*, refer to any endocarp; he simply describes the seed as destitute of an arillus.—D. Oliver.

Fig. 1. Flower and bracteoles. 2. Expanded flower. 3. Ovary and disk. 4. Longitudinal section of ovary. 5. Carpel with lateral stigma. 6. Same, laid open. 7. Seed. *All enlarged.*

M S. del. et lith

Peltanthera floribunda, Benth.

Plate 2298.

PELTANTHERA FLORIBUNDA, *Benth.*

Loganiaceæ. Subtribe Antonieæ.

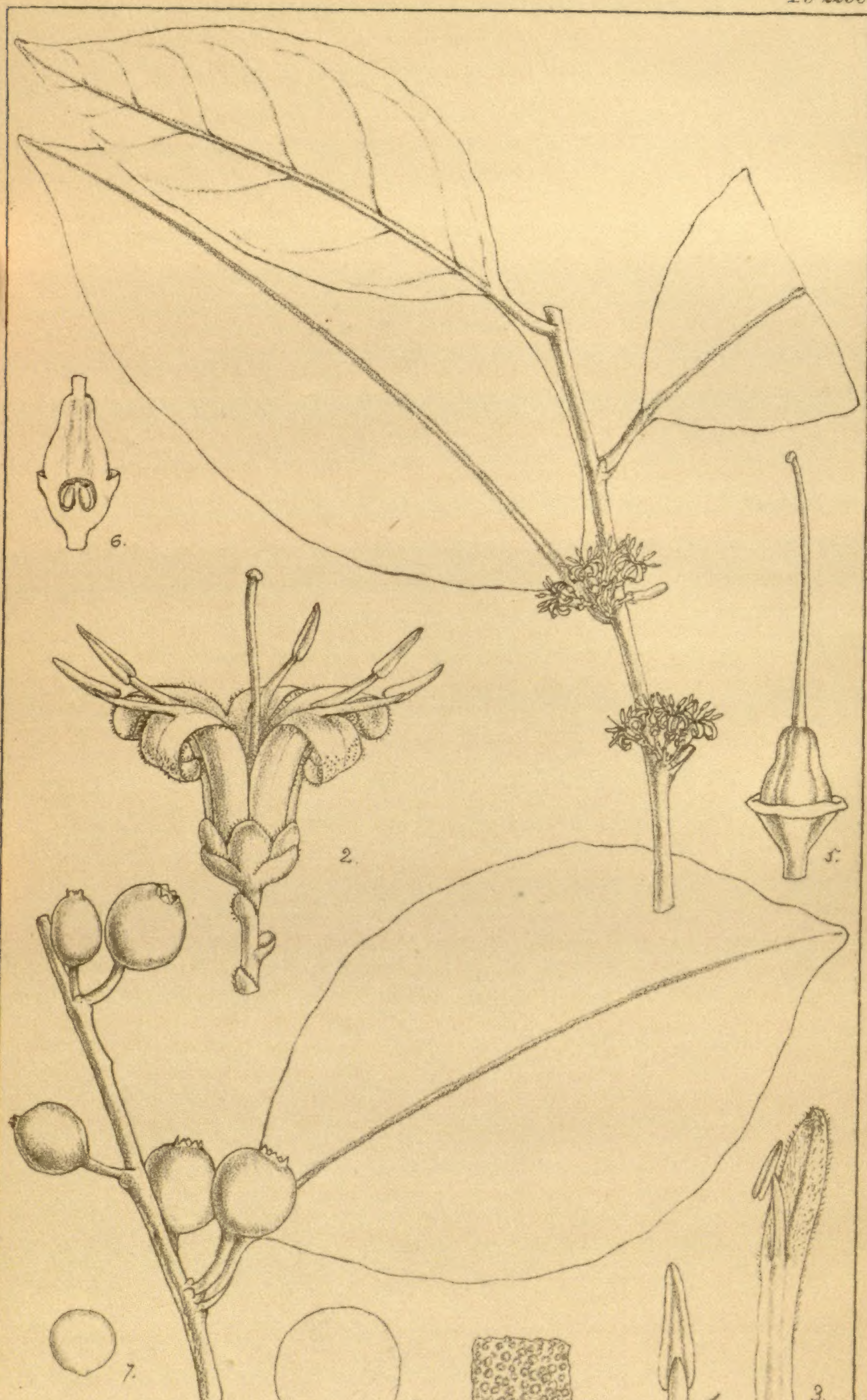
P. floribunda, *Benth. in Gen. Plant.* ii. 797; arbor, foliis oppositis petiolatis membranaceis oblanceolato-ellipticis acute apiculatis in petiolum cuneatim angustatis obscure glanduloso-denticulatis nervis lateralibus utrinque 12–13 costaque subtus prominulis glabratis vernatione subtus tomentellis, paniculis multifloris divaricatis breviter pedunculatis folio brevioribus axillis superioribus ortis, floribus graciliter pedicellatis, bracteis parvis linearibus deciduis, calycis parvi 5-partiti segmentis lanceolatis, corollæ cylindricæ calyce multoties longioris lobis brevibus æstivatione valvatis intus et marginibus breviter tomentellis, filamentis apice liberis corollæ fere æquilongis, antheris parvis ovato-rotundatis post dehiscentiam peltatim affixis, ovario ovoideo in stylum gracilem attenuato cum stylo parce pilosulo, stigmate peltato-discoideo, ovulis indefinitis.

Hab. Peru, Tarapoto, by rocky streams, *Spruce* (No. 4,940).

Arbor 40-pedalis, ramosa, ramulis teretibus glabratis novellis parce tomentellis. *Folia* 6–8 poll. longa, $2\frac{1}{2}$–$2\frac{3}{4}$ poll. lata; petiolus $\frac{1}{2}$–$\frac{2}{3}$ poll. longus. *Flores* 'albi, odorati,' 2–$2\frac{1}{2}$ lin. longi.

The only specimens of this interesting species in the Kew Herbarium are the original examples collected by Mr. Spruce in 1857, and first described by Mr. Bentham in the 'Genera Plantarum.' From the same locality Mr. Spruce sent specimens of a form of the same with rather narrower leaves, $1\frac{1}{2}$–2 inches broad.—D. Oliver.

Fig. 1. Flower. 2. Calyx and pistil. 3. Corolla, laid open. 4. Stamen, back and front. 5. Anther, after dehiscence. 6. Transverse section of ovary. *All enlarged.*



M.S. del, et lith.

Strombosia pustulata, Oliv.

STROMBOSIA PUSTULATA, *Oliv.*

OLACINEÆ. Tribe OLACEÆ.

S. pustulata, *Oliv.* (*sp. nov.*); glaberrima, ramulis teretibus, foliis petiolatis oblongo- v. ovali-ellipticis breviter acuminatis sæpe obtusiusculis costa in mucronem terminante supra (sub lente) minute pustulatis nervis inconspicuis, subtus nervis lateralibus utrinque 4–6 leviter prominentibus, cymis axillaribus sessilibus petiolis æquilongis, floribus pedicellatis, pedicellis bracteolatis bracteolis parvis rotundatis, sepalis parvis late ovatis obtusis, petalis lineari-oblongis supra medium recurvis margine et facie interiori apicem versus pilosulis, staminibus petalis adnatis et fere æquilongis, ovario apice carnoso libero ovoideo in stylum staminibus æquilongum abrupte angustato, cavitate ovulifera infera, fructibus subglobosis lobis calycinis marcidis apice coronatis.

HAB. West Tropical Africa, near Lagos, *Rowland*; Sierra Leone Boundary Commission, near Kambia, *Scott-Elliot* (No. 4,733).

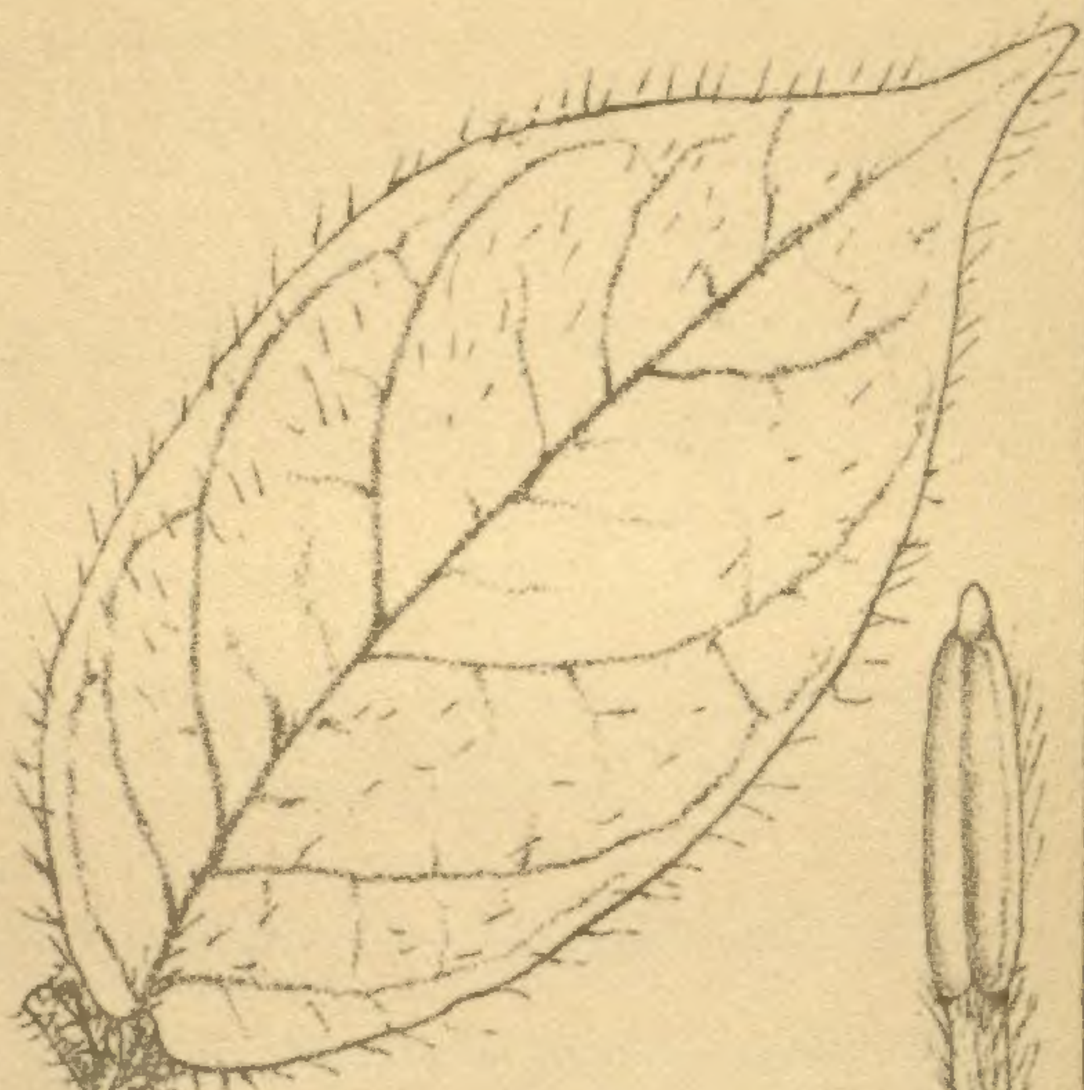
Folia $3\frac{1}{2}$–4 poll. longa, $1\frac{1}{2}$–2 poll lata, subcoriacea; petiolus $\frac{3}{10}$ poll. longus. *Fructus* $\frac{1}{3}$–$\frac{1}{2}$ poll. diam.

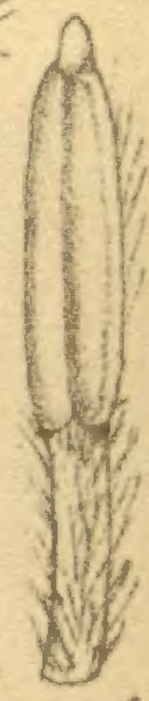
The only other described Tropical African Olacinea ascribed (with a ?) to *Strombosia* in the Kew Herbarium is *S. grandifolia*, Hook. f., of which we have no fruiting specimens. The leaves are much longer (5–8 inches long) than in *S. pustulata*, the lateral nerves conspicuous above and below, with approximately parallel transverse veins, and there is no trace of the minute pustuliform spots on the upper surface, readily found under a lens in *S. pustulata*, due probably to moulding of the dry tissues of the leaf over cystolithic concretions.—D. OLIVER.

Fig. 1. Portion of leaf, showing upper surface. 2. Flower. 3. Petal and antiposed stamen. 4. Anther, from back. 5. Pistil. 6. Longitudinal section of pistil. 7. Seed. 8. Vertical section of same. *Excepting fig.* 7, *enlarged.*

2.

1.





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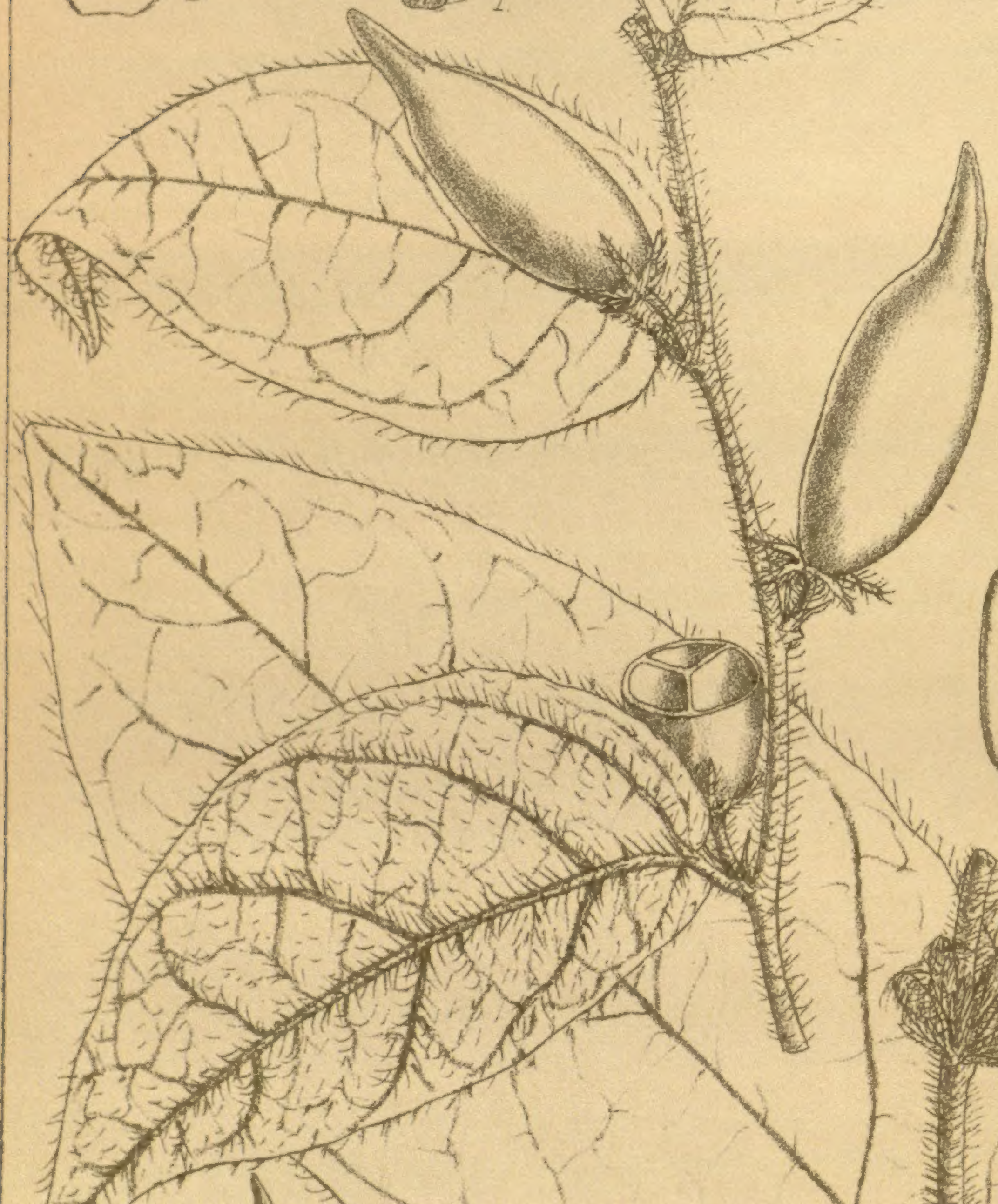

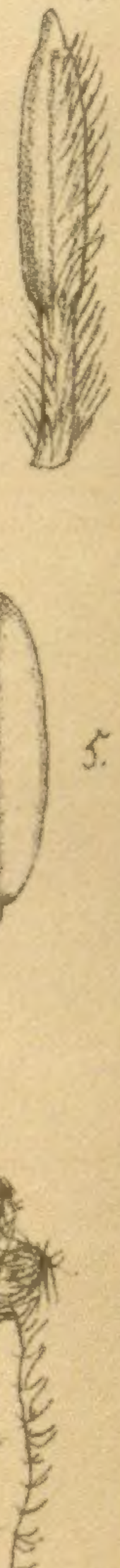

5.

3.

M.S. del, et lith.

Diospyros Barteri Hiern.

Plate 2300.

DIOSPYROS BARTERI, *Hiern.*

Ebenaceæ.

D. Barteri, *Hiern, Monog. Ebenaceæ,* 187; ramulis divaricatis teretibus patentim hispidis tandem glabratis, foliis brevissime petiolatis ovato-oblongis v. -ellipticis acute v. obtuse acuminatis basi cordatis supra glabratis v. parcissime setosis nervis depressis subtus præcipue in costa nervisque primariis setoso-hispidis, floribus ♂ axillaribus in fasciculis subsessilibus paucifloris ferrugineo-hispidis dispositis, pedicellis brevibus, bracteis parvis lineari-lanceolatis, calycis 4-partiti segmentis lanceolatis intus glabris corolla brevioribus, corollæ tubo crassiusculo intus glabro extus inferne tomentello superne setoso-hispido, staminibus circ. 12 setosis antheris lineari-lanceolatis, floribus ♀ solitariis pedicellatis, fructibus ovali-oblongis apice in rostrum productis di–trispermis, seminibus oblongis plano-convexis v. trigonis, albumine corneo æquabili.

Hab. West Tropical Africa, Lagos, *Barter*; Western Lagos, *Rowland.*

Frutex (*fide* Barter), ramulis gracilibus. *Folia* membranacea, 3–5 poll. longa, $1\frac{1}{2}$–$2\frac{1}{2}$ poll lata; petiolus 1–2 lin. longus. *Fructus* $1\frac{1}{2}$ poll. longus. *Semen* $\frac{3}{4}$ poll. longum.

Excellent specimens in fruit, with male flowers in bud, of this remarkable *Diospyros*, recently sent to Kew by Dr. Rowland, enable us to give a satisfactory figure. Mr. Hiern had but a fragment, with a single fruit, at his disposal for the description given in his Monograph. —D. Oliver.

Fig. Detached flower and bracts. 2. Longitudinal section of ♂ flower. 3 and 4. Stamens; anther, back and front view. 5. Embryo. *All enlarged.*